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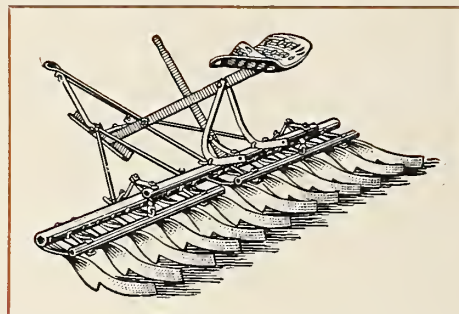
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# BETTER FRUIT

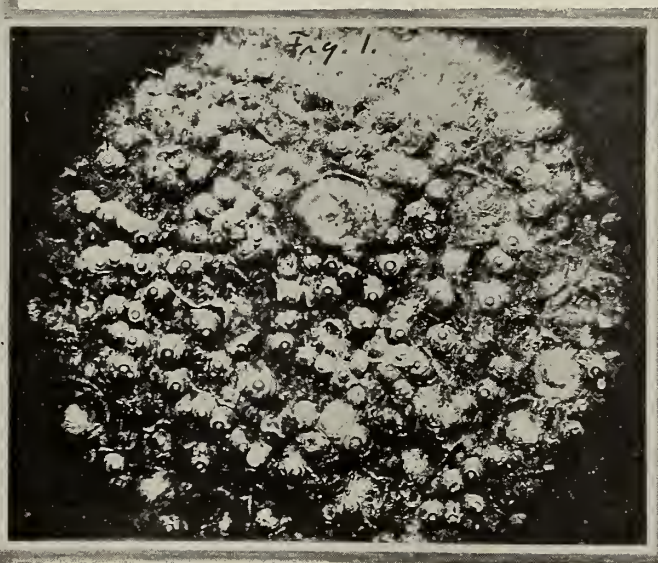
A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST  
OF UP-TO-DATE, PROGRESSIVE FRUIT GROWING AND MARKETING

## THE DESTRUCTIVE SAN JOSE SCALE

THE San Jose Scale is the most destructive of all pests in neglected orchards. Nevertheless, by intelligent effort it can be more easily controlled than any other first class orchard pest; and when we come to realize that the one annual winter application of the lime, sulphur, salt spray, which is all that is necessary to reduce its ravages to the minimum, is also one of the best general "cleaning up" sprays that has yet been devised, we

A Treatise on This Pest Telling How to Successfully Combat It, by Prof. A. B. Cordley, of the Oregon Agricultural Experiment Station, Corvallis, Oregon

With all its good qualities, however, the lime, sulphur, salt spray is not a cure-all. It does not, so far as known, reduce the number of wormy apples in an orchard, nor can it be used as a substitute for Bordeaux while the trees are in foliage. It is a distinctly winter spray



and should be used even in winter only upon deciduous trees.

The San Jose scale is very largely responsible for the present enthusiastic crusade against the old neglected, moss-covered orchards. Everyone is pruning and spraying. Why? To destroy the San Jose scale. Yet I find that a very small percentage of our farmers know what this dreaded thing is which they are so earnestly endeavoring to destroy. If any other spray than the lime, sulphur and salt were being used, a reaction against all spraying would certainly follow the poor results of so much misdirected energy. By using the lime, sulphur, salt spray beneficial results are almost certain to follow whether the scale be present or not. Nevertheless everyone who grows trees or shrubs should learn to know this destructive little pest and be prepared to combat it, since it may at any time appear upon the ornamentals of the city lot as well as the trees of the old home orchard.

Dr. L. O. Howard records it upon the following plants:

### LIST OF FOOD PLANTS

**Orchard Fruits**—Pear, peach, apple, plum, cherry, Rocky Mountain dwarf cherry, persimmon, quince, flowering quince.

**Small Fruits**—Strawberry.

**Bush Fruits**—Raspberry, gooseberry, grape, currant, flowering currant, black currant.

**Nut Plants**—Almond, chestnut, pecan, black walnut, English walnut, Japan walnut.

### MISCELLANEOUS ORNAMENTAL PLANTS, AND FOREST AND SHADE TREES

Rose, hawthorn, cotoneaster, euonymus, spirea, English huckleberry, linden, elm, acacia, osage orange, alder, sumac, laurel, weeping willow, red dogwood, juneberry, English willow, golden willow, laurel-leaved willow, milkweed, catalpa speciosa, Lombardy poplar, Carolina poplar, golden-leaved poplar, silver maple, cut-leaved birch, mountain ash, Japanese quince, actinidia, citrus trifoliata, snowball, loquat, akebia.

### HOW TO KNOW SAN JOSE SCALE

Perhaps the worst feature of an attack by San Jose scale is that, owing to its small size and inconspicuous color, it often remains unnoticed until the tree has been seriously injured or even killed. That the tree lacks vigor may be recognized, but the

cause of its unthriftiness is overlooked. Yet it is not difficult to detect when one really looks for it. In the early stages of infestation a few scales may be found, usually clustered about the buds of the preceding season's growth, or even on two-year-old wood. The mature scales are grayish in color, being usually but not always somewhat lighter than the bark to which they are so closely attached. The immature half-grown scales which may be found with the mature ones, are at the present time somewhat darker in color.

The mature females are nearly circular in shape, are approximately one-sixteenth inch in diameter and each is somewhat raised in the center to form a slight protuberance or nipple which is lighter in color than the rest of the scale. (See Fig. 1.) If this scale is carefully examined by means of a small magnifier several concentric circles may be observed between the nipple and the outside edge; and if it be carefully raised with the point of a pin or a knife there will be revealed a minute bright yellow object, the insect itself. (See Fig. 3.)

On badly infested plants the young scales settle wherever there is room to insert a beak into the bark, and as they increase in size they become much crowded and overlapped and have the

shall, perhaps, be ready to exclaim with J. H. Hale, the veteran peach grower of Connecticut and Georgia, "Blessed be the San Jose scale." It has compelled us to spray with the lime, sulphur and salt.

One application of lime, sulphur, salt each winter will do more for the neglected orchard than can be done in any other way by the same expenditure of cash and energy. It not only destroys San Jose scale, but it also destroys the branch form of woolly-aphis, the eggs of the green-aphis, the pear-leaf blister mite, the hibernating larvae of the prune twig-miner, probably the hibernating larvae of the bud-moth, together with most other insects which may chance to be wintering upon the trees. It is also a good fungicide. If applied in early winter it is nearly or quite equal to Bordeaux for the second application for apple-tree anthracnose; applied to peach trees just before the buds open in spring it is a preventive of peach-leaf-curl; and applied to apple trees under similar conditions it is a satisfactory substitute for the application of Bordeaux which is usually recommended for that time.

appearance of a gray scurvy deposit on the bark. The natural color of the bark is obscured and the infested plant appears as though coated with fine ash-colored bran. If the thumb-nail or other object is rubbed over this scurfy covering, thereby crushing the insects beneath the scales, a moist or oily appearance is produced and numerous scales will be overturned and many of the little yellow insects be revealed.

During the early stages of an attack very few if any of the scales will settle upon the leaves or fruit. Later both may be attacked. Upon the leaves, especially of the prune and peach, the young scales may be found on both surfaces, and more particularly clustered along the midrib. Each scale produces a minute purple spot. Upon purple prunes, red apples, etc., the scales appear only as minute gray specks usually clustered about the cavities at either end, but upon the yellow fruits like pears, peaches, and the yellow plums and apples, each scale produces a bright, reddish discoloration. If badly infested, the fruit, particularly of pears and apples, become much pitted, distorted in shape, cracked and unmarketable. (See Fig. 2.)

For the benefit of fruit inspectors in particular, it should be noted that reddish discolorations upon yellow fruits are not always caused by San Jose scale. Upon yellow apples and particularly upon peaches very similar spots are produced by attacks of certain minute fungi. Hence, such spots should not in themselves be taken as proof of infestation by the scale. This can be determined definitely only by a careful examination and the actual detection of the scale. The presence of such blotches may well arouse suspicion of the presence of San Jose scale and should challenge a careful examination alike by growers, buyers and inspectors; so also should the presence of dead and shriveled leaves upon the trees in mid-winter invite examination; for although their presence is not proof of the presence of the scale it is evidence that the vitality of the tree has been seriously impaired by some cause and in regions where San Jose scale is prevalent that cause in a vast majority of instances is the scale.

#### DEVELOPMENT OF THE SCALE

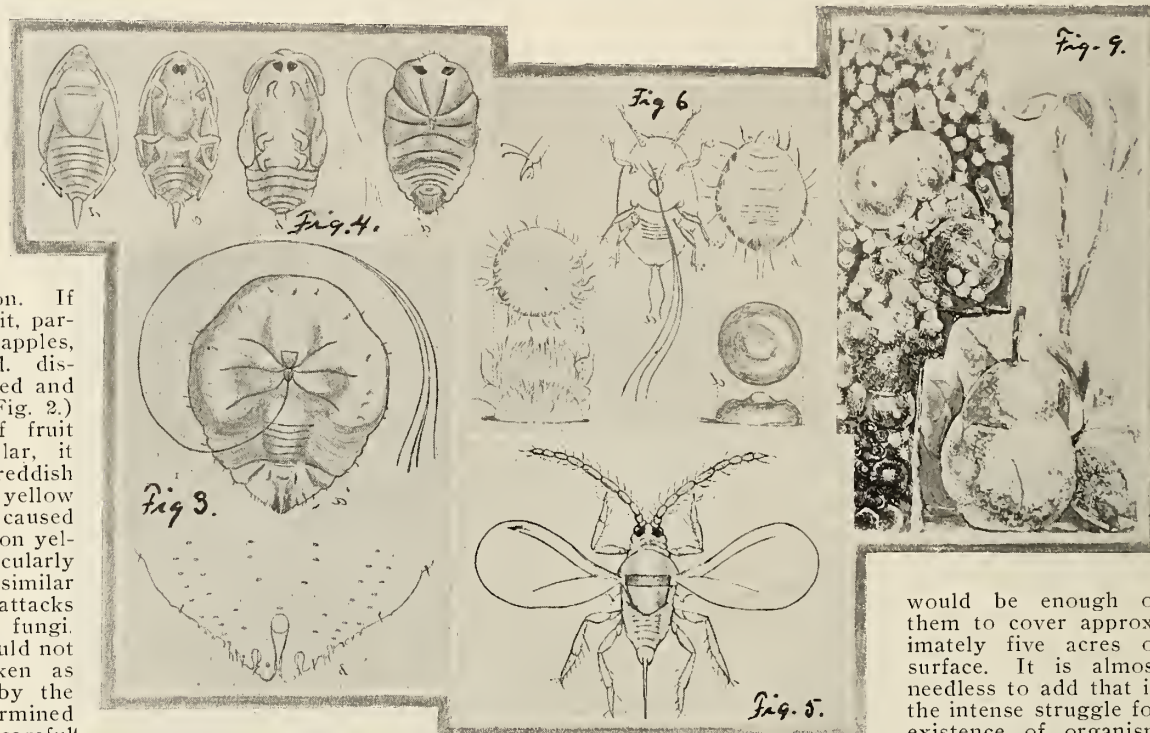
On the approach of winter scales of various ages and sizes may be found upon infested trees. A very large proportion especially of the immature scales usually perish during the winter, but at the present writing, March 10, practically all are still alive. We may expect, therefore, with normal conditions for the remainder of the season, to witness a very decided increase in scale infestation during the coming summer.

Fig. 1 shows a mature female surrounded by numerous half-grown individuals. The male scales are not circular but somewhat elongate. If one removes one of the large circular scales the little yellow object thereby revealed is a mature female. Under a moderate power of the microscope she proves to be a nearly circular, yellow, sack-like body

with long, slender, bristle-like mouth parts. (See Fig. 3.) An examination of the male shows him to be more elongate and to possess the rudiments of legs, wings, eyes, antennae, etc. (See Fig. 4.) The females live and die beneath their scales—never leaving them; but in April the males molt for the last time and soon thereafter emerge from under their scales as minute active creatures with fully developed wings. (See Fig. 5.) After mating the males die.

In May, possibly earlier under favorable conditions, the females begin to give birth to living young and may continue to produce for six weeks or longer. The young are minute, little orange-yellow, active creatures with eyes, bristle-like

females begin to produce another generation. There are thus produced some four or five generations during the entire season. Under supposedly favorable conditions single females of the later generations have been observed to produce approximately six hundred young. Basing their estimates upon breeding cage observations, Dr. Howard and Mr. Pergande have shown that it would be possible under the most favorable conditions for the progeny of a single female to reach the astonishing number of 3,216,080,400 individuals in a single season. Should each of these scales reach the largest size, one-tenth of an inch, and were they all placed side by side touching each other in all directions there



mouth parts, two antennae or feelers, and six legs. (See Fig. 6.) After emerging from under the protecting scale of the parent each wanders over the surface of bark, fruit or leaf until a suitable situation is found, when the legs and antennae are folded beneath the body, the bristle-like beak is slowly worked through the outer bark into the living tissues beneath, from which it draws its sustenance. At any time during the summer months hundreds of these little pests may be seen, even with the unaided eye, as they crawl about over the bark or fruit of infested trees. Even before the young insect has attached itself to the bark the secretion of the scale has begun. At first it consists only of a fluffy white mass of fine, waxy threads which for the first day or so of its existence causes the young San Jose scale to appear as a minute downy white speck upon the bark. As these filaments become more abundant they become fused into a more and more compact scale and assume a yellowish color. Later the young scale-insect molts several times during its growth and the fully developed scale is thus made up of fused wax filaments and the several molted skins.

Each female of the over-wintering generation is capable under favorable conditions of producing approximately one hundred young. In the course of but one month these reach maturity and the

would be enough of them to cover approximately five acres of surface. It is almost needless to add that in the intense struggle for existence of organism with organism and with climatic conditions such an astonishing rate of multiplication is not even approximated under natural conditions. Nevertheless, when one realizes the enormous rapidity with which this pest multiplies it is no longer a surprise that careless work in spraying fails to give satisfactory results. A few females here and there upon very small portions of the tree which have not been reached by the spray may during a single season completely reinfest that tree. Satisfactory results are obtained only by the most thorough work. Every square inch of surface of trunk, limbs, branches and twigs should be thoroughly covered. By far the most common cause of unsatisfactory results is the failure of those who spray to do thorough work.

#### HOW THE SCALE SPREADS

Since the female scale is motionless, and permanently attached throughout life to the branch on which it feeds, it is often asked how it is that the San Jose scale can spread from tree to tree, orchard to orchard, and even for larger distances? It is only during the first few hours of its existence that one of these little pests can emigrate, and observation has shown that even then it is incapable by its own efforts of getting more than a few feet at most from the tree on which it was born. But birds and bees and other insects make good airships for the little creatures, and

no doubt many a young scale has crawled upon the foot of a bird or upon some larger insect and thereon voyaged to the distant realm of another tree or orchard. No doubt also strong gusts of wind often tear them loose from the bark on which they are crawling and waft them to the branches of neighboring trees. These are provisions of nature for distributing the species. Through the channels of trade they are carried long distances, even from continent to continent upon infested nursery stock, cuttings, etc., and probably to a lesser extent upon infested fruit. Buds and scions carelessly taken from an infested tree may transmit the pest to the orchard in which they are placed or may infest

1 pound of salt to each 3 gallons of water. West of the Cascades this formula is more efficient than the 1-1-4 formula which is reported to be satisfactory in the Inland Empire. The function of the salt being problematical. I have in the last edition of my bulletin on Insecticides and Fungicides (No. 75) advised using 25 to 50 pounds of salt rather than the full 50 pounds which was originally recommended. I can not, however, recommend that the salt be left out entirely, as is evident from the results of two season's experiments which are herein recorded.

In preparing this spray it is my plan to put a little water in the bottom of the boiling vat, start the fire, and when the water comes to a boil pour in the required amount of lime and sulphur. The hot water, together with the heat generated by the slaking lime, will at once set the mass to boiling

the spray can be most conveniently boiled in a number of barrels or in large wooden vats, the steam being conveyed to the bottom of the barrels or vats. Thus liberated it not only boils the spray but keeps it well stirred the while, thus eliminating much of the drudgery of stirring by hand which is incident to other methods.

#### Enemies of the San Jose Scale

At present I can offer no encouragement to those who desire to see the San Jose scale held in check by its natural enemies. In August, 1903, I received through the courtesy of Dr. L. O. Howard, a small consignment of the Chinese lady-bird beetle (*Chilocorus similis*). These were liberated at Jacksonville, Oregon, in an abandoned pear thicket, on the premises of Mayor E. Britt. This thicket was badly infested with scale; Mr. Britt undertook to see that it should not be sprayed or destroyed during the time of the experiment, and strong hopes were entertained that the extremely favorable conditions would result in a flourishing colony from which beetles could later be

distributed to other parts of the state. Several months after the beetles were liberated Mr. Britt and Mr. Chas. Meserve succeeded in finding more than twenty of them still alive and apparently in good condition, but by the following July all had apparently perished as a most thorough search by Mr. Meserve and myself failed to reveal any trace of them or their progeny and similar negative results were obtained from another examination the following year.

A closely related native species, *Chilocorus bivulnerus*, has been reported by Mr. A. H. Carson, Horticultural

Commissioner for the third district, to have practically exterminated the San Jose scale from a small but badly infested orchard near Grants Pass. The late Emile Schanno, The Dalles, Oregon, in 1896, sent me a number of specimens of this species, with the report that they were very abundant upon fir trees, which were infested with a closely related scale, *Aspidiotus abietis*; but no other reports of such habits have been received and I myself have never observed them.

The much smaller, entirely black, native species, *Penttila misella*, is much more generally distributed and undoubtedly destroys a great many scales but for some reason it does not increase rapidly enough to keep pace with the increase of the scale, which appears, likewise, to be true of the three or four internal parasites which have been reared from San Jose scale from various parts of the country.

#### Experiments in 1904 and 1905

Through the liberality of the Southern Pacific Company which furnished free transportation for myself and such machinery and supplies as were necessary for the work, together with the courtesy extended by Mr. S. D. Evans of Umpqua Ferry, who kindly placed a badly infested apple orchard at my disposal, I was enabled in the spring of 1904, to conduct a series of experiments with various remedies for the San Jose



an entire block of trees in some nursery and thence be distributed to many orchards. It is also probable that many are carried about upon the hands and clothing of the men who prune the trees or pick the fruit or otherwise work about the orchards. By such means has the scale been brought from China, its native home, to San Jose, California, whence in thirty-five years it has spread to practically all the fruit-growing states in the Union and to various foreign countries.

#### REMEDIES

There is but one remedy yet discovered which need be considered in this state. That is the lime, sulphur, salt spray. In the east, fairly satisfactory results have been obtained by the use of various preparations of kerosene or other petroleum products, but the high price of kerosene makes it impracticable to use it here in any form for spraying purposes except in a very small way. The San Jose scale has probably been present in this state approximately twenty-five years; and for the past fifteen years the lime, sulphur, salt has been the standard spray for destroying it. During the first few years of its use various formulas were employed and to a less extent this is still true, but since December, 1896, when it was first published in the Biennial Report of the State Board of Horticulture, the formula which has come to be known as the Oregon formula has been the standard one in this state.

#### The Oregon Formula

This formula was the result of some extensive experiments by the late Emile Schanno of The Dalles, Oregon, and is as follows: Quicklime, 50 pounds; sulphur, 50 pounds; salt, 50 pounds; water, 150 gallons.

This may be much simplified by designating it as the 1-1-1-3 formula. i. e., 1 pound of lime, 1 pound of sulphur and



briskly. This should be kept up for at least an hour, or until the mixture is of a deep blood-red color, and there is but little free sulphur floating upon the surface. The salt can be added at any time since it dissolves readily.

Plate 3 is reproduced from photographs of two simple boiling vats. Fig. 7 is simply a "hog scalding" vat made of "inch and a half" lumber and with galvanized iron bottom. It is 18 inches wide on the bottom, 20 inches wide on top and 10 feet long. The sides should project two or three inches beyond the ends and the galvanized iron of which the bottom is made should project at each end 6 inches beyond the sides and then be turned up and fastened securely, thus forming shallow troughs at each end which must be kept filled with water to prevent the ends from burning.

These vats may readily be set up wherever there is a convenient water supply by simply digging a trench of the proper dimensions, placing the vat over it and banking about with earth to prevent the fire from reaching the wooden sides. A better draft is secured by erecting a few feet of stove pipe at the back end. If the vat is to be permanently located it is of course preferable to mount it upon a brick arch. With such an apparatus one can readily prepare the spray as fast as it can be used by a power spraying outfit running two lines of hose. If one possesses a steam boiler

scale, which a lack of funds would otherwise have made impossible. The following spring, 1905, I was permitted through the courtesy of the manager, Mr. Robert Johnson, to repeat most of these experiments in the 160-acre prune orchard of the Benton County Prune Company. Since the work of the second season was largely a check upon that of the first, both will be considered together. In 1904, the work was delayed by almost constant rains and was not finished until April 10, when neighboring prune orchards were in full bloom and the leaves on some of the earliest apple trees were just unfolding. In 1905 spraying began on February 27 and lasted until the middle of March. In neither case was any attempt made to determine the exact per cent of the overwintering scales which was destroyed by the various sprays, since it was thought that the large variation in the relative number of dead and living scales normally present on unsprayed trees would render such estimates misleading and that more reliable and practical results could be obtained by examining the trees during the summer and fall to observe the degree to which they had become reinfested and to what extent the fruit was rendered unmarketable; for after all, growers will judge the efficiency of a spray largely by the quality of the fruit. Unfortunately, however, this method of estimating the relative value of the different sprays was to a certain extent disappointing, by reason of the fact that both sprayed and unsprayed trees failed to produce more than an insignificant amount of fruit. However, by examination of the leaves and new growth, on trees which had been the worst infested, results were obtained which it is believed represent very closely the relative value of the different mixtures.

#### Experiment No. 1—Dunne's Solid Spray No. 1

Dunne's solid sprays, prepared by David M. Dunne & Co., Portland, Oregon, are said to be prepared from strictly first-class material and in conformity with the formulas which have been recommended by the State Board of Horticulture. No. 1 is a solid preparation of the lime, sulphur, salt spray and came to us in boxes weighing approximately 100 pounds, into which it had evidently been poured while warm and then allowed to solidify.

(1904) Dissolved 200 pounds in 200 gallons of water by boiling. Could see no difference between it and No. 2. Color was such as to indicate presence of copper sulphate. Probably through mistake No. 2 was shipped for No. 1. Was prepared and placed in spraying tank on afternoon of April 4. Rained; not used until 48 hours later, but still warm. Leaves on four trees the size of "squirrel's ears." On remainder of trees buds still closed. July 19, 1904, nearly every apple was badly spotted by scale—not efficient.

The results in 1905 were more satisfactory but not quite equal to those obtained by standard formulas.

#### Experiment No. 2—Dunne's Solid Spray No. 2

This is similar to No. 1, except that copper sulphate is used in place of the salt. It was prepared in the same manner and used at the same strength as No. 1.

(1904) Not efficient but slightly better than No. 1. Most of the fruit badly spotted.

(1905) Many living scales on the new growth.

#### Experiment No. 3—Caustic Soda

(1904) Dissolved 50 pounds in 50 gallons of water, then diluted to 200 gallons. Very easily prepared but disagreeable to

use. Every drop that strikes one's hands or face burns severely. Men declared they would not work for five dollars a day if required to use it. July 19, not at all efficient; fruit badly spotted.

(1905) Used 20 pounds to 100 gallons of water; also 30 pounds to 100 gallons, but results unsatisfactory. Many living scales on new growth.

#### Experiment No. 4—Lime, Sulphur

(1904) Lime 50 pounds, sulphur 50 pounds, water 150 gallons. Slaked the lime in hot water in boiling vat. While slaking added sulphur, covered with water and simmered for six hours. Still considerable uncombined sulphur. July 19, fairly efficient. Only an occasional apple with a few scales.

#### Experiment No. 5—Lime, Sulphur, Caustic Soda

Lime 50 pounds, sulphur 50 pounds, caustic soda 24 pounds, water 150 gallons. Slaked lime and added sulphur. After boiling from slaking lime had ceased added caustic soda. This produced a vigorous boiling which continued for nearly 30 minutes. Allowed to stand one and one-half hours, then diluted to 150 gallons. July 19, almost as efficient as No. 4. Fruit slightly more spotted.

#### Experiment No. 6—Lime, Sulphur, Copper Sulphate

Lime 50 pounds, sulphur 50 pounds, copper sulphate 15 pounds, water 150 gallons. Slaked lime, added sulphur, covered with water and boiled two hours. Added copper sulphate crystals and kept

over fire five hours longer, during which time it boiled vigorously for about one hour. Sulphur almost completely combined. In the bottom of the vat there appeared to be considerably more sediment, consisting of fine "shotty" pellets than when salt is used. July 19, apparently not quite so efficient as No. 4 and No. 5. Difference very slight.

#### Experiment No. 7—Lime, Sulphur

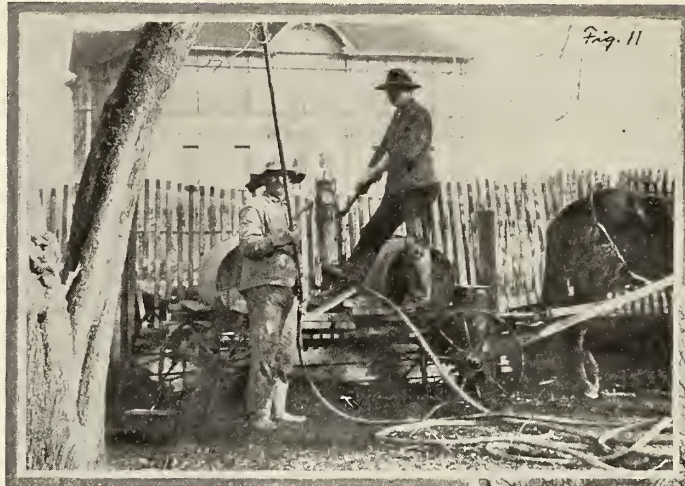
(1904) Same as No. 4, but boiled more thoroughly. July 19, a very few spotted apples, but only on branches which were evidently not thoroughly sprayed. Very efficient.

(1905) Results obtained with lime, sulphur alone were not so satisfactory. Young scales became quite abundant on leaves and young growth during summer.

#### Experiment No. 8—Lime, Sulphur, Salt

(1904) Same as No. 7, except that 50 pounds of salt was added after lime and sulphur had been boiled for two hours. July 19, very efficient; a very few infected apples.

(1905) Very efficient. Leaves and young growth almost absolutely free



from scale and no living scales to be found on sprayed wood.

#### Experiment No. 9—Lime, Sulphur, Salt

(1904) Prepared same as No. 8, but only one-half as strong. July 19, most of the apples spotted.

#### Experiment No. 10—Good's Whale-Oil Soap No. 10

(1904) This is a semi-fluid whale-oil soap, which dissolves very readily by stirring, even in cold water. For use 50 pounds were dissolved in 25 gallons of water. July 19, not efficient; every apple badly infested.

#### Experiment No. 11—Con-Sol

(1905) This was furnished us by the American Horticultural Distributing Company, of Martinsburg, West Virginia, through their agents, the Portland Seed Company, Portland, Oregon. In a circular letter it is stated that "Our product is a concentrated solution of lime, sulphur and salt, prepared by a process discovered by a German chemist, combining electricity and metallic mercury in extracting the product called Con-Sol, which has proven to be a destroyer of San Jose scale." I was advised that it had given good results in the east when used in the proportions of 1 of Con-Sol to 40 of water, but was asked to try the effect of stronger solutions. I used it

upon infested prune trees March 1, in the proportion of 1 to 20. Not at all efficient. Many living scales both upon sprayed wood and upon leaves and young growth.

It will be observed that in none of the above experiments were the scales completely eradicated. This is hardly surprising when one considers that the trees, particularly the apples trees were badly infested and had not been pruned for several years. This does not affect the results however, so far as the relative value of the different sprays is concerned, which show that for the two season's work the best results were obtained with the standard lime, sulphur and salt formula. The same formula but with the salt omitted gave practically as good results in 1904, but was not so efficient in 1905.

We decided to publish the above article by Prof. A. B. Cordley, for the reason that a great many growers where scale is prevalent realize the necessity of a winter spraying and an early spring spraying for the purpose of stamping out this disease. We had hoped to have an additional

article from Professor Cordley to supplement this article, but his business from the state prevented our securing it in time for this publication, therefore we consider it proper for us to add a few personal observations, and we hope before the spring spraying to have another article on the San Jose scale that will be general, and cover the investigations and conclusions that have been made during the year 1906.

Three years ago a number of growers whom I have conferred with, and whose orchards have come under my observation, including myself, sprayed with a lime, sulphur and salt spray, cooking the mixture ourselves. The results were quite satisfactory, and the spread of the disease not only was checked, but to a great extent eliminated. The following year, 1905, after considerable investigation on the part of the writer and others, we felt that a better chemical combination could be effected by cooking chemically through the action of caustic potash. This combination was tried with even better results than the mixture which we cooked over fire. We do not wish to be understood that this latter method is preferable to the former, but I do believe that ordinarily the average orchardist is not properly prepared to cook his own mixture and apply sufficient heat a necessary length of time in order to secure the proper chemical combination. The result of the lime and sulphur cooked by means of caustic potash chemically were more satisfactory so far as I have observed than where cooked artificially. This year, 1906, after considerable investigation on the part of a number of successful orchardists it was decided to try the lime and sulphur prepared solution. In every instance so far as I know the results were more

satisfactory than either of the two previous methods. In one orchard that I have in mind where sprayed with this prepared lime and sulphur solution three trees were neglected, and as the scaly fruit on these three trees was more than the scaly fruit on the rest of the entire orchard, it is an assured conclusion that the scale was there, and that this prepared solution killed it.

To sum up the situation, the lime and sulphur properly cooked by the individual grower we believe is a good remedy for the San Jose scale, either where the salt is included or omitted. Where the same is cooked chemically by caustic potash, we believe the results are better, either through a better cooking or some additional effectiveness of the caustic potash. The lime and sulphur prepared solution has given better results, and has proved more effective. Our idea is this, that a concern properly equipped for making this mixture, whose business is to manufacture this solution, will produce a better and more perfect chemical combination than the individual would be able to produce himself either by artificial or chemical cooking, for the reason that the manufacturer in the first place understands the Oregon formula and the proper amount of each ingredient required; that in the second place, he knows how long the article should be cooked and what temperature is necessary in order to properly prepare the article to effect the required chemical combination.

The manufacture of this article is so simple where a concern is properly equipped for it, that we believe any manufacturer so equipped can produce a solution of lime and sulphur that will be superior to the one that the average grower will mix up for himself.

## PROFIT IN THE MANUFACTURE OF CIDER

Prepared for BETTER FRUIT by The Hydraulic Press Mfg. Co., Mt. Gilead, Ohio

PRACTICALLY no effort has been made either by private enterprise or through the agency of state or federal governments to collect reliable data on cider making. As a result the sources of information on the subject are meagre. Cider making from the standpoint of profitable industry has been regarded by most fruitgrowers as of less relative importance than poultry raising by the average farmer. It is a fact, however, as a casual investigation will show, that cider making is an industry of great possibilities for profitable investment. Cider of itself is a staple commodity universally desired. It embodies food elements of the highest nutrient value and in a form most easily digested and assimilated by the human body. It contains elements absolutely essential to the proper and healthful functions of various organs of the body. Some of the most eminent physicians and scientists of the United States and Europe have unqualifiedly recommended cider as a healthful food for the strong and a strengthening and invigorating tonic for the weak. The famous Dr. Dennis Dumont, professor of medicine in France, and Prof. John Evelyn, a noted English scientist, have supported this claim by testimony founded on many years' experience and observation. Any one having read or heard the lectures of Dr. W. D. Carlisle, an eminent American mycologist, who devoted nearly all his life to the study of processes of manufacturing fine wines from apple cider, needs no further proof to convince him of the nutrient and medicinal properties of cider properly treated. The hygienic and nutrient values of cider being established, the problem of securing a market is readily solved by preparing it with such flavor, appearance and aroma as will please the eye and gratify the palate.

What disposition shall be made of unmarketable apples, is a question that annually presents itself to most every American fruitgrower. With all the skillful culture and attention possible to grow better fruit, there will always be some apples not equal to the market requirements, and in the mind of each orchardist there is a more or less uncrystallized notion that some use should be made of his "culls." In the States of

Oregon, Washington and Idaho, there is no doubt, if the facts could be definitely ascertained, they would show that thousands of bushels of apples go to waste each year, simply because there is no immediate market for them and no convenient means of preserving them. About 95 per cent of ripe apples is juice and by separating the juice from the skin and other hard cellular tissue you have in the juice the only part of the apple that is of real value; the other portion, the pomace, may be thrown away. By using a modern hydraulic press practically all the juice is obtained and there is small chance of wasting any of the apple that is of use to man.

The first advantage gained by working up unmarketable fruit into cider is that it is converted into a condensed and portable form convenient for handling and storing. The second object is to convert this valuable portion of the crop into a marketable commodity, which would otherwise be wasted and lost. The cost, time and labor of working up several hundred bushels of apples into cider is only nominal as compared with the value of the cider itself if properly handled. Apples that have been bruised in handling, are imperfectly developed, too small and gnarled apples which would not be worth the cost of packing, can be utilized in this manner and the orchardist's revenue largely enhanced. The maxims of successful enterprise are as applicable to the business of a practical orchardist as to any other. The little things must not be overlooked; all the byproducts must be utilized for from them is derived much of the profit.

An appropriate time for making cider is as soon as the apples are ripe and such as suits the convenience of the orchardist. Whether apples should be washed before they are run through the press is a subject of controversy which is best settled by the requirements of each individual case. If particles of soil or dust adhere to the skins, washing will very materially improve the cider. Unless there is reason for it, they should not

be washed, and, if washed, they should be thoroughly dry before being delivered to the press; otherwise the cider will be diluted by the moisture adhering to the surfaces. Some advocate wiping each apple with a cloth. Experience has not shown that the quality of cider is improved by sweating apples in bins or large heaps; but on the contrary large masses of apples collected in bins or piles tend to heat which induces premature fermentation in bruised and decayed spots and hastens putrefaction. A better practice is to store them in such manner that each apple will be exposed to free air as much as possible.

A second advantage of working up inferior apples into cider is that by so doing, what was practically a worthless and unmarketable product becomes a commodity of great value. Methods of handling the cider are, of course, of most interest. There are three principal plans of procedure, briefly outlined as follows: (1) The cider may be converted into vinegar; (2) by proper treatment apple cider of fair quality may be manufactured into a sparkling wine equal to most and superior to some foreign and domestic wines said to have been made of grape juice; and (3) by processes of evaporation cider may be reduced to a syrup and apple jelly. In either of these three forms the product finds a ready market at remunerative prices.

Cider of the most inferior quality, including that derived from second pressings may be used advantageously for vinegar. Any plant juice containing sugar will with proper treatment make vinegar; but apple juice is pre-eminently appropriate for vinegar making, because of the fascinating flavors imparted by certain properties of the apple, not found in other plants. Recent enactments by the United States Congress have been specially favorable to cider vinegar makers and have markedly stimulated the demand for good cider vinegar. A small vinegar plant consisting of a warm room, some barrels and casks is within the reach of every orchardist or owner of a custom cider press. Having the building and barrels, with a little attention, nature does the rest. Making vinegar is simply a conversion of the sugar in the cider by means of fermentation into

alcohol and a change of the alcohol into acetic acid by a further process of fermentation. The mistake of purchasing expensive generators and large equipment should not be made by the inexperienced. Make your vinegar by what is called the slow process. It may require six months time, some attention, heat and air, but you will produce vinegar equal in strength to any on the market and at a minimum cost. Cider vinegar is an article more universally demanded than coffee. It is used in every household every day in the year, and will always be a marketable commodity. It is true the price will fluctuate slightly, but it is not a perishable product and can be stored for an indefinite time to await a favorable market.

It is a fact that any one may learn if he will take trouble to acquaint himself with the "tricks of the trade" that many thousand gallons of cider are sold annually both in the United States and Europe to the manufacturers of grape wine, and that the same cider is resold to the public as wine. It is a sort of self-deception which the wine-drinking public practices on itself. The public gets what it pays for—a sparkling, invigorating beverage; but the question arises, why is it necessary that the cider should pass through the wine cellar? Why should it not go direct from the orchardist to the consumer? There is no forbidden art or hidden secret about the manufacture of wine, whether of apple cider or of grape juice. Many have in some way gotten a notion that to preserve cider it is necessary to put something into it; and as a result there are many "must-quacks" throughout the country selling secret preparations or formula to a gullible public. These concoctions are usually made up of salicylic or benzoic acid or other deleterious substances, the uses of which are prohibited by all pure food laws as well as the laws of nature. Fermentation under favorable conditions of temperature and ventilation is nature's process of purifying and preserving all fruit juices for man's use, and is the art by which the winemaker is enabled to sell cider in bottles labeled sweet malaga, claret, sherry, champagne, etc. Cider exposed to the air at a tempera-

ture of above 60 degrees Fahrenheit will soon set up an active fermentation. A careful examination will show it to have become infested with myriads of plant cells called bacteria or yeasts. These cells do not materially differ from the yeast used in making bread. They inhabit the air everywhere and consist of innumerable species or families. Every baker knows that some varieties of yeast will make good bread and some will not. The winemaker's secret is the same as the baker's. To produce a high grade wine from apple juice, he selects the proper quality of yeast and nature does the rest. Were the baker to trust his bread to the chance yeasts that happen to lodge in his dough as it comes in contact with the atmosphere, the result would be hard and unpalatable bread, likewise if the winemaker does not implant in his must the proper yeast, he will have "hard cider," a mild name for putrefied cider. The key to the process is to control fermentation by introducing carefully selected yeast cultures. By following this plan it is possible to produce scintillating beverages with pleasing aroma, fascinating flavor and fine bouquet that are sold in pint bottles, labeled champagne for 75c each, or in quart bottles labeled sweet malaga, claret, etc., at \$1.00 per bottle.

A third course of treatment by which raw cider is converted into a useful and marketable commodity is that of evaporation. By evaporation of a large percentage of the water contained in the cider the volume of the mass is not only reduced, but the resultant product is so concentrated that it will remain in a perfect state of preservation for years. Two forms of product most commonly obtained by this method are cider syrup (boiled cider) and apple or cider jelly. The former is applied to a great variety of culinary arts, such as making apple butter, mince pies, etc. Cider syrup is usually sold to consumers by the gallon and finds a ready market in any community where it has been introduced. To obtain a cider syrup of suitable consistency and to avoid any chance of fermentation the volume of the cider should be reduced about five to one, the extent of evaporation being governed somewhat

by the quality of the cider and the market requirements.

To manufacture cider jelly the same plan is followed and the same equipment used as when cider is reduced to syrup; the only difference being that the process of evaporation is carried farther. A very palatable jelly is made from apple cider by reducing the volume about seven to one. Some persons prefer a tart jelly; others desire a product of milder taste. These varied requirements are met by using with the cider such quantity of sugar as will meet the particular demands. The jelly may be flavored to suit varied tastes by using any flavoring material that will not readily evaporate. Cider jelly is usually marketed in glass jars holding two or three pints.

Cider cannot be reduced to syrup or converted into jelly by the ordinary processes of boiling in an open pan or large kettle. To convert the water of cider into vapor requires a temperature of not less than 212 degrees Fahrenheit and the higher the temperature the more rapid the conversion. High temperatures applied to any liquid which is exposed to the air and which contains sugar tend to carbonize the sugar and render the liquid dark and if extreme heat is applied large quantities of the sugar will decompose and the resultant syrup or jelly will be black like coal tar. This difficulty is overcome by a steam evaporator so constructed with coils of copper steam pipes in an enclosed box or tank that a very high degree of heat is maintained in the boiling juice, during the application of which the air is practically prevented from coming in contact with the cider. Such an evaporator is operated by an ordinary steam boiler and when the merits and worth of cider syrup and apple jelly are once learned no apple-growing community will be without one.

It is not guess-work or experiment; but the finding of a market at profitable prices for cider products prepared on the plans suggested is an assured and established fact, as may be ascertained by any one who will make the effort to investigate the matter and take the testimony of those who have and are now developing the cider industry in the United States.

## A NEW APPLE PEST : THE APPLE LEAF MINER

THE Storrs Agricultural Experiment Station sends out the following warning to Connecticut fruit-growers: An insect, which up to the present time has not been reported as a serious pest, occurred in such destructive numbers during the past season that it must now be reckoned with by the orchardist.

The insect is known as the apple leaf-miner or the trumpet-miner of the apple. It was first observed in Pennsylvania and described by Dr. Clemens in 1860. Later its occurrence has been recorded in Kentucky, New York, Illinois, Texas, Minnesota, Michigan, New Jersey, Vermont and Ontario.

The injury is caused by the tiny caterpillars mining in the leaves, making large, brownish patches. If several of these patches are produced on a leaf, it rolls up and ceases to perform its functions. The mines frequently become so numerous that they run together and form one large blotch. As many as 68 full-grown caterpillars have been taken from a single leaf, indicating that originally there were as many distinct mines. The upper

### A Warning Concerning an Eastern Pest Which May Bother Western Orchardists

branches of the tree are usually more seriously infested and lose their foliage first. This loss of foliage results in premature, undersized fruit. By checking its vegetative activity, the vitality of the tree will also be more or less reduced.

#### LIFE HISTORY

Early in June, the egg, which is so small that it cannot be seen with the naked eye, is deposited singly on the upper surface of the leaf. A drop of wax seals it to the leaf. In about six days it hatches and the young caterpillar, without exposing itself to the outside world, bores into the leaf. At first it makes a narrow channel, but with the increase in the size of the insect and its appetite, the channel becomes wider and a trumpet-shaped mine is the result.

The full-grown caterpillar is not more than a quarter inch in length. In color it is green with a brown head. It changes

to a pupa about the middle of July. After about ten days in this condition the adult, which is an inconspicuous brown moth, appears.

These moths soon commence depositing the eggs that produce the second brood. The second brood caterpillars are much more destructive than the first. They reach maturity about September 1st, when they cease feeding and prepare for winter. After lining the mine with silk they settle down until spring when they change to pupae. They remain in this condition only a few days when they become moths.

#### REMEDY

As the caterpillars feed beneath the leaf surface, application of insecticides is useless. The most effective remedy is to gather up and destroy the leaves in the fall. Where orchards are regularly tilled the early spring plowing will be equally effective.

A fully illustrated bulletin by C. D. Jarvis, giving the life history of the insect, will be issued soon and can be secured by addressing The Storrs Agricultural Experiment Station, Storrs, Connecticut.

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We wish you all a merry Xmas and a happy, prosperous New Year, and will always be glad to meet you in harmony on any movement to make a *better Hood River*

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# THE GREAT APPLE INDUSTRY

FROM all over the United States come the most unqualified as-

Written for "BETTER FRUIT"  
by JAMES HANDLY, Quincy, Ill.

surances that National Apple Day, the third Tuesday in October, was most highly successful in all its bearings. A strong tide of thought and attention was turned in the direction of the apple industry. Many things obscuring a clear vision in the situation were swept away and a truer conception of producing apples and modes of marketing was obtained.

To the surprise of many people it was readily seen the crop for the present year had been greatly over-estimated; that the great army of orchardists in many states were not posted as to their position. Many had thought that the crop was over-abundant and that it would be hardly worth while to make a reasonable effort for picking, sorting, packing and placing the apples on markets, hence in too many instances, they were allowed to perish.

The most trustworthy statistics presented to the public seem to come from The American Agriculturist, which is relied upon every year as to the amount of the aggregate crop of the country. The periodical now announces that the crop in the United States for the present year will be in round numbers about 36,000,000 barrels; something more than 12,000,000 barrels than the crop of last year. When we take into consideration that the bumper crop of 1896 was 69,000,000 barrels, and that there was no complaint then of over-production, it seems to be rather a marvel why so many entertained the idea now that we have several millions more of a population than in 1896, that a crop of 36,000,000 barrels would overstock the general markets.

The facts are, however, that when the bloom opened early in the season a very little difference could be perceived between the trees receiving careful attention, and those which had been practically neglected. Nature was lavish in her assistance in most of the apple belts and it only needed the hand of man to aid in developing one of the greatest and grandest crops of apples ever grown in this country. But as the weeks passed it was plainly manifest there was a marked difference between the sprayed and unsprayed orchards.

Along in August, in the Middle West especially, the work of the second brood of the codling moth was unrestricted in many orchards and the prevalence of bitter rot was easily perceived. Nature indeed did provide many orchards with a most abundant crop of apples but in too many instances, they were of an inferior quality, having no practical market value. To illustrate, an orchard of 72 acres in Illinois might be referred to which for several years brought the handsome returns of \$12,000 per annum to its owners. They were very level headed men, however, and knew they were planting more orchards than they could properly care for. The orchard in question was therefore sold for \$100 per acre, bringing \$7200. The man buying it thought he had a bargain, but paid no attention to the care of his trees. During the past season a sharp buyer investigated the orchard and said, no doubt truthfully, that if he were obliged to pick

and barrel the apples at his own expense he would not accept the fruit as a gift.

On the other hand, the parties who sold this orchard, gave special attention in cultivating a fifty-acre orchard, and they sold the fruit of these trees in a lump the past season for the sum of \$7000.

The apple industry should by no means be allowed to languish. When the crop is a failure, or when the market seems slow, at an appearance of an over-abundant crop, the apple grower should not be discouraged, but should make careful reviews of situations and do some logical reasoning from cause to effect. The fact is, that the yield this year comes within a few million of barrels of being the smallest yield ever had in the country according to its population.

Of course when we say "smallest yield" we refer particularly to marketable fruit. The stubborn fact also exists that with the seeming abundance in many places, there are too many millions in the large cities of the Middle and Eastern States who scarcely know what it is to eat a fresh, ripe, juicy apple from one year to another. We cannot repeat it too often, that the apple is the King of Fruits and it possesses wholesome, life-giving powers that should be appreciated and its value should find way into all circles and among all classes of people.

Probably there are many orchardists who have not yet sold the present crop of apples. If so, they would be richly rewarded if they should place the fruit in pyramid piles in their orchards, then cover them with straw, and then a layer of dirt and then a covering of corn stalks outside the dirt, and this with proper care and attention would keep the fruit in splendid condition until next Spring, when three times the present value could be readily obtained.

It is well known that in New York State early in the season many shippers hesitated to pay \$1.50 per barrel for the Gravensteins and now they would be glad to get such fruit at prices ranging from \$2.50 to \$3.00 per barrel. In the Middle West, many orchardists became alarmed over the prospects of a too abundant crop, and sold Jonathan apples for forty cents a bushel and commission men are holding the same fruit now at prices ranging from \$4.00 to \$5.00 per barrel.

In some places that came to our observation orchardists sold their sound culls for ten cents per bushel. It is greatly to be regretted that those making mistakes were not better posted on the situation, because where the crop was abundant, it will not be apt to be large next year, for, as a rule, trees rest two or three years at least, after an apparently over-exertion.

We wish to call attention to apple growers everywhere that at the exposition at Jamestown next year extra exertions will be made to score a magnificent success in an apple display. No better advertisements of lands could be given than by a thorough exhibition of its fruits. People will come from all over the world to attend the exposition and they will naturally make up their mind as to the value of land and the richness of soil in the different parts of the coun-

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try by an exhibition of its products. The orchardists must remember, however, that in order to make a creditable exhibition, the best fruit of this year's crop must be saved for such a purpose. The exposition opens early in the season when probably many orchards are in bloom, and a display of such fruit could

not be made until very late in the fall. Some of the late summer and early fall apples, however, will be available. The directors are planning to observe the National Apple Day, the third Tuesday in October, next year in a most fitting manner that will attract attention in all parts of the world.

## HINTS FROM EASTERN TRADE

**T**O Fruit Growers—On all shipments of prunes arriving and unloaded in the Eastern Auction Market this season the breakage in every car was excessive, due mostly to the poor construction and the poor quality of the lumber used in the crates used by the growers from your section.

For the benefit of all concerned I am giving you herewith a few pointers that I know positively if followed out will result in shippers receiving from 10 cents to 15 cents per crate more for your fruit.

First of all, if possible, secure heavier lumber. Both the end pieces and the side pieces now being used by you are entirely too weak, and when loaded in the car the bottom tier always collapses on account of not being able to withstand the pressure.

For the sides and ends and bottoms of the crates use larger cement nails, but in no case use cement nails for the cover. Very frequently the nails become loosened in transit and the natural result is that the sides break off, nails drop out and contents are spilled on the car floor. If you are compelled to use the single strip on the side of the crate in all cases, put at least three nails in the side pieces instead of two as heretofore, but our experience has taught us that the best results are obtainable by using two strips on the side of the crate about the size of a common lath. When using these however the end pieces must be considerably heavier and thicker than the ones you are using now.

In addition to this kindly remember the following: It is imperative that all cars be top-tiered, that is the top tiers bear a separate stamp as in all cases the top tiers are riper than the balance of the car. On our California shipments we use the rubber stamp bearing a star so that all of our top tiers are uniformly marked and easily recognized. Would advise that you do the same in your district, using one character to indicate all top tiers so they may be looked out for.

Your attention has been heretofore called to the necessity of marking on the crates the size of the pack of plums and prunes, whether 4x4, 4x5, or 5x5. These marks should always show on the manifest that goes with the car as the manifest is copied and becomes the catalog and therefore these marks appear on the catalog. There are buyers for each of these different sizes and also for the ripe top tiers and they look for them and are willing readily to pay more for the fruit when they are able to get just what they want. By all means avoid marking boxes with pencil, always use a rubber stamp. This is of more importance than you can imagine, and I trust that each one of you will see to it that in future seasons these suggestions are carried out.

In loading prunes there will be no objection to including in each car a few crates of the small plums and prunes which will pack 6x7, but they must be packed in baskets four tiers deep and

must also be marked on the crates accordingly. I firmly believe that by following out the above outlines we will be able to establish a reputation placing your fruit on the level with that which the golden state of California at present holds.

[Note—The above letter was received by the manager of the Hood River Fruit Growers Union and the Hood River Apple Growers Union, who is editor of "Better Fruit," also a fruit grower. The suggestions are so valuable that it is more than worthy of publication. We take pleasure in publishing it word for word, believing the advice will save many prune growers and shippers hundreds of dollars in the future. "Better Fruit" aims not only to give the best methods for growing and putting up a fancy package, but in making an effort along the line of securing and publishing information about marketing, selling and shipping. While perhaps it would be timely to give such information as is contained in the above letter in advance, it must be remembered results cannot always be foretold, and that experience brings out things unforeseen. We shall continue to publish important information which comes as results, for the reason that although we cannot profit by it this year it will protect against loss next year.]

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# GRAPE GROWING A FACTOR IN HORTICULTURE

**T**HE native country of the grape is unknown, or at least doubtful. It is among the fruits mentioned in the Books of Moses and doubtless grew alongside the apple in the Garden of Eden. Noah planted a vineyard, and the vine appears to have been cultivated and the fruit used then as at the present day. Wine is mentioned as a beverage among the earliest nations of the world. The oldest profane writers ascribe the introduction of the grape to their gods. Ascending to Egyptian tradition, Osins first paid attention to the vine and instructed men in the manner of planting and using it. The inhabitants of Africa ascribe the same gift to the ancient Bacchus. Wine was among the first oblations to the Divinity.

Humboldt says the vine does not belong to Europe but is indigenous in Asia between the Black Sea and the Caspian, on Mount Ararat and on the Taurus. But no matter where its origin it has always been held in highest esteem and emigrants have always carried it from their old homes to the new, and some of the many varieties found adapted to use in almost every land in which civilized man has taken up his abode. I must confess to an early interest in the grape. As a very small boy at Sunday School my fancy was greatly taken by the picture of Joshua and Caleb returning from the land of Canaan bearing on a staff supported between them on their shoulders one bunch of grapes. I thought what a joy it would be to sit down to such a bunch and eat all I wanted; for at that time it was generally

Written Especially for **BETTER FRUIT**  
by **W. K. NEWELL**, President of the  
State Board of Horticulture of Oregon

believed that grapes would not grow in Oregon, and the few that found their way to our house were usually passed around with the scissors and the paternal instructions to cut off a very small cluster.

Either that artist indulged his imagination a little too freely, or that was remarkable soil for grapes on that sunny slope on the banks of the brook Eschol, for never have I quite realized the dream of great crops inspired by that pictured account.

Although there are many species of grapes, there are only two with which we have much concern, *Vitis Vinifera*, commonly known as the European, or in this country as the California grape, to which class belong the Muscats, Tokay, Black Hamburg, Sweetwater, etc., and the *Vitis Laurus* or native American grape, to which class belong the Concord, Worden, Niagara, Diamond, etc.

The European grape, though repeatedly tried, does not succeed east of the Rocky Mountains, except in a few Southern states, but is entirely at home in California, Southern Oregon, and all the great Inland Empire from the Cascades to the Rockies, wherever the elevation is not too great, and the location too frosty. It can also be grown in the Willamette valley, but requires more care and skill, and is not certain. The native American grape succeeds

most admirably in Western Oregon and Washington. Any one hoping to make a commercial success of grape growing must choose his variety in accordance with his location. I will speak first of the American varieties. There are many excellent black grapes such as Worden, Moore's Early, Campbell's Early, McPike, etc., but they are all classed in the market as Concord. The trade knows only the one name for all of this type. And Concord is the one that should be principally grown, as it is by far the best all-around grape, being perfectly hardy, a sure bearer, good shipper, and a ready seller.

The Worden is a little earlier, and similar in all except the shipping qualities. It is a very poor shipper, and should be grown only for nearby markets. Moore's Early is very early and of good quality, but a very shy bearer. The best white grape is Niagara, perfectly hardy, fine bearer and shipper, ripens with the Concord. The Diamond is a fine white grape also; ripens a little earlier than the Niagara and is better quality, but does not yield heavily.

The Delaware is the best red grape, and by many people is considered the standard of excellence in quality. It, however, has a good many off years in bearing.

The commercial grower does not want many varieties, first select a suitable location; this should preferably be a southern or western hillside where both soil and air drainage are good. Rich soil is not necessary, and land that will produce wheat or potatoes is rich

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WILL

LOOK BETTER  
SELL BETTER

IF YOU USE

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FANCY LABELS

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PORTLAND, OREGON

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J. W. NEWKIRK . . . . . Cashier  
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B. F. STEVENS . 2d Asst. Cashier

## London & Lancashire Fire Insurance Co.

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Capital . \$15,000,000

Surplus in U.S. 1,149,000

Net Reserve 7,500,000

This sterling English Company paid  
\$6,732,269 losses in San Francisco

**H. F. DAVIDSON, AGENT**  
HOOD RIVER, OREGON

## ORIENT INSURANCE COMPANY

OF HARTFORD, CONN.

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Net Surplus \$250,000

This Company paid \$1,331,294 to  
its Policy Holders in San Francisco

**E. A. FRANZ, AGENT**  
HOOD RIVER, OREGON

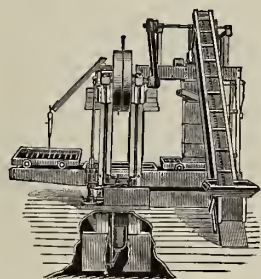
**T**HE above payments at San Francisco are more than those of any other affiliated companies, with one exception, and the saving from claims as filed was only 7 per cent, which is far below the average

JAMES WYPER, Manager Pacific Coast Branch

**SAM B. STOY**  
SPECIAL AGENT AND ADJUSTER  
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TREES, SMALL FRUITS, ROSES,  
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ESTABLISHED 1868

WHOLESALE AND  
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APPLES POTATOES ONIONS  
FANCY SELECTED APPLES IN BOXES A SPECIALTY

95 BARCLAY STREET  
NEW YORK CITY, NEW YORK

COLD STORAGE WAREHOUSE, 95-97-99 BARCLAY STREET  
TELEGRAPHIC CODES: A. B. C., SCATTER GOODS, ECONOMY

enough. Even very rocky hillsides with very light soil, if so that it can be cultivated, will do admirably.

After the land is well plowed and harrowed, mark off the rows eight feet by ten feet. I formerly advocated seven feet by eight feet, but find this too close, as it does not allow the use of two horses in cultivating. Plant eight feet apart in row, and rows ten feet apart, then you can use a two-horse disc, Acme, or spring-tooth harrow to cultivate, and save a great deal of time. This will require about 550 plants per acre. The best time for planting is in April, and yearling vines are to be preferred. Dig holes three feet in diameter and eighteen to twenty inches deep, filling in the bottom of hole with good surface soil, and leaving a little mound in the center on which the roots can be spread and left pointing downward. Tread the dirt firmly with feet when planting, and set the stake (a good, strong three or four foot one) at the same time as the vine.

Potatoes or beans may be grown between the vines the first year. Keep well cultivated and free from weeds, and tie to stakes during the summer if necessary. The second year, in February, cut back the vine to two strong buds, and later cut off the weakest shoot and keep the other one tied to the stake. Early in the third year put up a trellis of No. 12 galvanized wire, one two feet from the ground, the other four feet. Stretch very tight from good strong posts, and put in stakes between every other vine, leaving always two vines between stakes. Then prune the vines to six or eight buds, two just long enough to tie to lower wire; cut everything else off, leaving just the straight stem.

In summer the young shoots will grow up and fasten themselves to the upper wire, and there may be some fruit this season. All shoots growing out within eighteen inches of the ground should be rubbed off.

The fourth year, two of the strongest canes are cut back to six or eight buds, and tied in opposite directions on the wires, and two canes are cut back to two buds to grow bearing canes for the next year. All the rest is cut off smoothly. It must be kept in mind that only the young shoots from last year's growth will bear. In order to keep the vine under control and secure the growth of good strong foliage, it is necessary to do some summer pruning. This consists in pinching out the ends of the new shoots as soon as the grapes are formed, leaving just one leaf beyond the outside bunch of fruit. The shoots that are desired for the next year's bearing canes should be left to grow a little longer before pinching out end. Later the laterals should be headed in the same way.

By the fifth year they should bear a full crop, and four or five canes of six or eight buds are left with a spur of two buds at the base of each one. Canes are now tied to trellis in shape of a fan, and summer pruning done as year before.

It is difficult to describe summer pruning so that a beginner can fully understand; better visit some vineyard at this time. The system here described is called the renewing system; all bearing wood is cut away each year, and new wood grown to take its place. Pruning may be done at any time in winter, but should always be done before March first. Tying must be done before buds sprout or they will break off.

When it comes time to market the crop the grower will find that the trade demands the American varieties put up in baskets holding four to eight pounds

each. These cost three and three and a half cents each by the thousand. Use scissors in picking and never pick when wet with either rain or dew. A wet grape will mildew before it reaches market. Gather one or more day's supply ahead and pack after they have wilted slightly, as they will not crack or fall off so readily. Remove all imperfect berries and pack closely in baskets, filling basket one-half inch above sides, so that the cover will press them down firmly.

I have never grown the European varieties, so I am not prepared to speak authoritatively about them. But they are almost invariably grown on the stump system, pruned to short spurs of one and two buds. Little or no summer pruning is practiced, but they require sulphuring or spraying with bordeaux to prevent mildew. The varieties commonly grown are Black Hamburg, Flame of Tokay, Sweetwater, Rose of Peru, and the Muscats.

Eastern and Southern Oregon should produce enough of the European grapes to shut California out of our markets, and to supply the entire Northwest, Alaska and the Orient. The Willamette valley should produce Concords for the entire coast.

*Things we are Agents for*

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ALFRED BENJAMIN & CO.'S  
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PURE SECOND GENERATION STOCK *of*

## MAYETTES AND FRANQUETTES

SELECTED BY ME DURING MY RECENT VISIT TO FRANCE

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First-Class Yearlings

### J. B. PILKINGTON, Nurseryman

Specialist in Nut Trees and Fine Ornamentals  
Full Line of Fruit Trees, Shrubs, Roses, Etc.

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CAPITAL \$50,000.00

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EVERY FACILITY POSSIBLE FOR PROMPT AND  
SATISFACTORY HANDLING OF FRUIT BUSINESS

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TRUMAN BUTLER, Cashier

Established 1900  
Incorporated 1905

## Butler Banking Company

HOOD RIVER, OREGON

Capital Fully Paid \$50,000

### GROWTH OF DEPOSITS

April 4, 1901 . . . \$ 36,741.73	April 4, 1904 . . . \$140,866.60
April 4, 1902 . . . 69,530.57	April 4, 1905 . . . 160,031.71
April 4, 1903 . . . 128,481.75	April 4, 1906 . . . 281,042.83

*The Managing Officers of this Bank have been residents of Wasco County for more than twenty-four years*

W. M. LADD

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ESTABLISHED 1859

## Ladd & Tilton, Bankers

PORTLAND, OREGON

Transact a General Banking Business  
INTEREST PAID ON TIME DEPOSITS

## TRUE INDEPENDENCE IS ORCHARDISTS' LOT

I N response to your request for a brief statement of experiences, I believe I have nothing to offer that would be of value to older fruit growers, but I am always glad to take the chance of catching the ear of some poor devil back East who has nothing but money and business training and finds that they do not bring either health or happiness. The "tired" business or professional man, if he only had the right pointer and the confidence would in many cases find that this land of small fruit ranches and easy vacations is just what he and his children need. And also the land, in a way, needs him.

I came to it without any previous knowledge whatever of any kind of horticulture after twenty years in business. I chose Washington because I concluded that certain parts of this state (and I presume certain parts of Oregon are the same) offered the best openings for what I wanted in the United States; better than California for definite reasons. If good results have, against probability, been obtained it is, I presume, because first the country is what I judged it to be, and second because I looked at the raising of fruit as a manufacturing business, and brought to it the ideas of a manufacturer and not those of an Eastern farmer. That is, I determined to learn how to produce certain kinds of peaches and grapes and have put all my time and thought into those lines, not attempting to learn the hay business nor any other. Those I conceive to be specialties, best intrusted to specialists in them. I do not believe in side lines. Poultry, bees, fine dogs, vegetables, none of them run themselves, and they give the best results only when they receive a man's best attention. They distract a new fruit grower's mind from the main issue; and the fact is that not only can he dispense with them, but he cannot afford to dabble in them. Where land can be made to give the returns that our fruit land can, the owner cannot afford to devote any of it to raising the few tons of hay or the few sacks of potatoes he will need. This simplifies the proposition materially to the beginner.

As for details, I seem to get along with less water on my trees than some of my older-established neighbors, but I give them all the cultivation and all the manure I can contrive. I have no manure pile. I clean the stable every few days, hauling the product in a slip scraper direct to the trees. There the chickens spread it for me, and the cultivator or spring-tooth harrow work it in. This method also keeps the premises practically free from flies.

Yours very truly,  
A. T. RICHARDSON,  
North Yakima, Wash.

[Note—We felt thoroughly pleased over this letter, for it is from a man after our own heart who came out of the crowded unhealthy wholesale business of the city and engaged in fruit growing on business principles, and has found the business profitable, healthy and interesting, just as we have done ourselves. And indeed we feel honored in having the views that "Better Fruit" is promulgating indorsed by so able a man, and expressed so forcibly and concisely.]

## THIS FRUIT-GROWER GETS FINE RESULTS

**M**R. A. I. MASON, of Hood River, has 207 Newtown trees nine years old from which he marketed 1,141 boxes, realizing \$2503.80. His trees are planted 63 to the acre, which makes an average of 346½ boxes to the acre, or \$750.90 per acre.

The net profit per tree is \$9.50, per acre \$598.50, or \$2,094.25 on three and one-third acres. But perhaps the most wonderful and important observation is that out of 1141 boxes he had but 64 wormy apples. These excellent prices were the result of high class work in pruning and cultivating, spraying and thinning, all being evidenced in the above results and in the additional statistics showing the number of apples of each size.

The statistics were compiled by the editor of "Better Fruit", who is manager of the Hood River Apple Growers Union.

The following is Mr. A. I. Mason's record for his Yellow Newtown orchard for 1906 and we think it is a good one. If there is anything better let us hear from you:

Age of trees, 9 years.  
Number of trees to the acre, 63.  
Average boxes per tree, 5½.  
Size of apples packed in boxes: 27 boxes 54s, 5 boxes 64s; 192 boxes 72s, 300 boxes 80s, 102 boxes 88s, 201 boxes 96s, 90 boxes 104s, 38 boxes 104s, 48 boxes 120s, 83 boxes 128s, 1 box 144s, 9 boxes 150s, 36 boxes 165s, 1 box 175s, 7 boxes 200s.  
Total number of boxes 1141; all four-tier except 54 boxes.  
Total number apples injured by worms during season, 64.  
Spray used, arsenate of lead.  
Times sprayed, 6.

## WHY NURSERY STOCK VARIES IN QUOTATIONS

**B**UYERS of apple trees cannot understand why certain varieties can be sold cheaper than others. The reason is that some varieties like Ben Davis, Spy and Baldwin grow straight and vigorous, whereas other varieties like Fameuse and Greening are slower growers and inclined to be crooked. It is the same way with some varieties of pears. Bartlett and Clapp's are straight vigorous growers, while Bosc is a slower grower and more liable to be crooked. In a block of 10,000 vigorous growing trees there may 8,000 first-class trees, but in a block of 10,000 poor, or crooked growing trees like Fameuse or Bartlett there might not be 3,000 first-class trees. Therefore, nurserymen cannot make much money by producing slow-growing trees that are not inclined to grow straight. But trees a little crooked are not noticeable after a few years growth in the orchard.

THE DALLES NURSERIES  
R. H. Weber, Proprietor

The Dalles, Oregon, December 4, 1906.

Better Fruit Publishing Co., Hood River, Oregon.  
Gentlemen—Your more than valuable paper has arrived. Would like to have a half dozen copies of your last issue if they are in stock. It is almost essential that I have these as I have many inquiries resulting from the coupons sent out to my correspondents.

Your success with "Better Fruit" seems assured at this time. In talking with people in various sections of Oregon I find it highly recommended. You can well afford to be proud of the progress you have made to date.

An article on planting would be very timely in the January number, and I will make an effort to prepare an article for you, but it will require some time. Yours very truly, R. H. WEBER.

## REWARD OFFERED

Every planter who plants CHICO-GROWN STOCK will be rewarded with good fruit. WHY? Because Chico Trees have no equal. They grow and bear.

GRAFTED WALNUTS A SPECIALTY

AGENTS WANTED

CHICO NURSERY CO., CHICO, CALIFORNIA

IF YOU WANT TO  
MARKET YOUR

## FRUIT

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OVER 30 VARIETIES OF  
STRAWBERRIES  
RASPBERRIES  
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PHENOMENALS  
LOGANS, ETC.

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People who have used them  
find it pays well. If we  
have not got just what you  
want, we can get it on short  
notice. Call and see us.

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**DRYER, O'MALLEY  
& CO.**

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COMMISSION  
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WE MAKE A SPECIALTY OF  
HANDLING APPLES AND  
STRAWBERRIES

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HAVE MAINTAINED  
THEIR RECORD—HIGHEST QUALITY,  
LOW PRICE. We offer the only GENUINE STOCK of the  
superb new fruits: KING DAVID, DELICIOUS, BLACK BEN,  
CHAMPION and SENATOR Apples; BANNER, SUNRISE, Grapes,  
GOLD Plum, FAME Pear, etc. Finest stock  
in the U. S. of all leading commercial sorts.  
We PAY CASH WEEKLY and want more  
Salesmen. Price-list, etc. FREE.

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INCORPORATED

## General Banking

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WHITE SALMON, WASH.

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# FINE ROSES

is now ready and will be sent free to those requesting it. Rose buyers are welcome to visit our Nurseries and inspect the stock we offer for sale.

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SEND POSTAL FOR CATALOG

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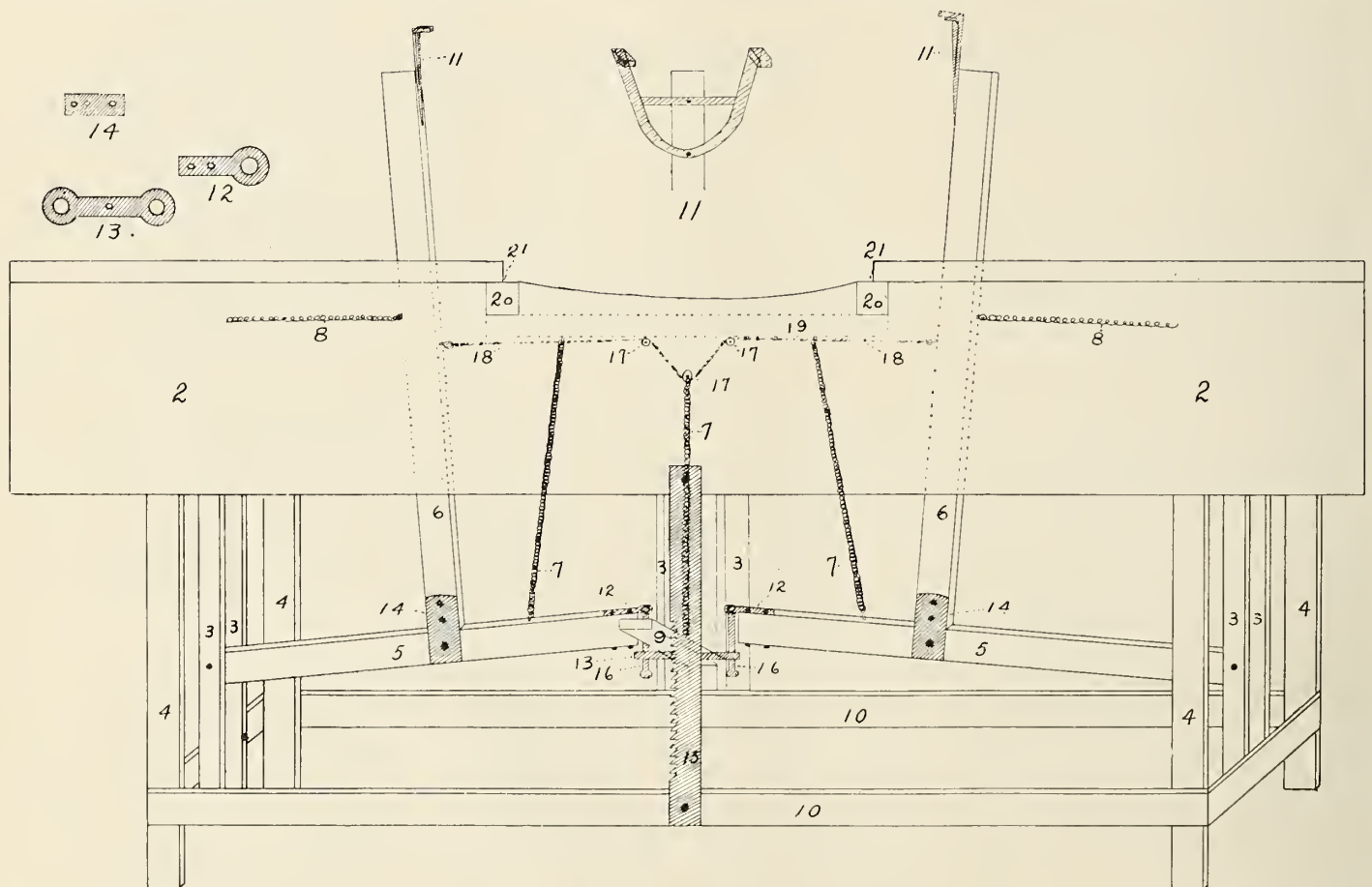
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Men, Camping & Fishing Parties

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## A THOROUGHLY PRACTICAL BOX PRESS FOR NAILING APPLE BOXES



Scale  $\frac{1}{4} = 1$

### KEY TO PLAN FOR NAILING PRESS

1. Cover boards to table, extending about half over cross pieces (20) on each side. Length of table, 64 inches.

2. Side board to table. The part between the cross pieces (20) is cut down to allow a box with bulged bottom to slide off the press.

3. Uprights for attachment of levers (5 and 9).

4. Legs of table, 28½ inches long, 1½ inches square. (All the arms, legs, and levers of the press may be made of 1½x1½-inch stuff.)

5. Levers, 24 inches long.

6. Upright arms, 30 inches long.

7. Steel springs, ¾ inch inside diameter. The two attached to the levers (5) are fastened at upper end to spanner (19). The center spring is attached to the foot lever (9) and a pulley (17). All springs are shown relaxed.

8. Spring attached to upright arm (6) and support (3). These springs should be long and light, such as are often used on screen doors.

9. Foot lever, bolted to uprights (3) at back, and working with catch plate and ratchet in front. It is fastened to plate (13).

10. Brace for legs and lower support for uprights. Three inches from ground.

11. Horseshoe plate for gripping box cleats and cover. It is attached to arm (6) with flat-headed stove bolts, and must be made very true.

12. Iron plates bolted to levers (5), with large holes in projecting ends, allowing the bolts (16) to slide freely.

13. Lower plate under lever (9), to which it is bolted loosely, with large holes in each end for free play of bolts (16).

14. Side plate joining lever (5) and arm (6). Two bolts to arm, and one, fitted loosely, to lever.

15. Iron ratchet to engage plate on front lever (9).

16. Half-inch bolts, 2½ inches long, working loosely in the holes in the plates (12 and 13).

17. Three small pulleys for rope attached to arms (6). Center pulley is attached to center spring (9). The other two pulleys are attached to spanner (19).

18. Strong quarter-inch cord that will not stretch. Runs across from arm to arm (6), passing through the three pulleys (17).

19. Spanner running parallel with side, back about 10 inches from front side and directly under center of box.

20. Cross pieces (end view), providing support for box. Attached to it is spanner (19).

21. Grooves for holding box in place. They are a trifle over 18 inches apart. To accommodate the special box, which is 20 inches long, strips may be nailed to the table top one inch back from the opening on either side.

The top of the table must have slots cut in it to allow working of arms. Tables may be of any width desired, but arms should be conveniently near the front.

MARK LEVY

B. H. LEVY

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MERCHANTS**WHOLESALE FRUITS**121-123 FRONT AND  
200 WASHINGTON ST.

PORTLAND, OREGON

**WINTER AND SPRING  
BLOOMING  
BULBS**Hyacinths, Tulips, Narcissus, Crocus,  
Etc. Now is the time to plant. Send  
for our catalogue of Bulbs and Roses.**CLARKE BROS.**  
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NURSERIES**R. H. WEBER, *Proprietor*

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EVERGREENS, ROSES & SHRUBBERYREMEMBER—OUR TREES ARE GROWN STRICTLY  
WITHOUT IRRIGATION**Stanley-Smith  
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**Tobacco Dust** FOR WOOLLY  
APHISSpring and Summer is the time to fight woolly  
aphis, and Tobacco Dust is the preparation to use  
in fighting it. Tobacco Dust is safe and effective,  
and is a valuable fertilizer for the trees as well.  
It is recommended by the Missouri Experiment  
Station and other authorities.**WE SELL TOBACCO DUST IN ANY QUANTITY**Send for circular quoting prices. Do this now, so  
the Tobacco Dust can be applied to your trees, and  
the rains will leach it down among the roots,  
killing the woolly aphis and fertilizing the trees  
for this season's growth.**Mayer Fertilizer and J. Co.**

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PERSONAL ATTENTION**129 FRONT STREET  
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GRAPES, MELONS AND CLIMATETHE natural home of the Spitzenberg and New-  
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price in the New York market. No peaches of the  
South excel those of Rogue River, and trees are  
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watermelons and cassabas, none better and big  
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Union gets the highest price for fruit, and the  
Southern Pacific gives terminal rates on shipments  
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winds to injure fruit crop. Almonds and figs ripen  
perfectly and palms grow in the yards. Land yet  
cheap but will double in two years. Now \$5 to  
\$100 an acre in small and large tracts, some on  
easy payments. American community and good  
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tion by addressing CHARLES MESERVE, H. V.  
MEADE, Sellers of *Real Estate in All Parts of  
Rogue River Valley*. References by permission:  
Grants Pass Fruitgrowers Union, First National  
Bank of Southern Oregon, Grants Pass Banking  
and Trust Company.**YAKIMA COUNTY  
HORTICULTURAL  
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GROWERS AND SHIPPERS OF

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PLUMS, PRUNES, CANTALOUPE AND APPLES

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FRUIT WORTH THE MONEY**  
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PACKERS AND SHIPPERS**During the past thirteen years we have built up a  
reputation for *quality* that has enabled us to handle  
crops grown by members of the Local Union as  
well as other growers, at price above what they  
could otherwise secure.Our mission is to give the growers good prices,  
and the buyers fruit of such quality as will enable  
them to make satisfactory profits.Our specialties are APPLES and STRAWBER-  
RIES, but we handle all kinds of fruits grown in  
this section, including Pears, Plums, Cherries,  
Blackberries and Raspberries. If you are a buyer  
write us. If a grower call and see us, or telephone  
Main 71.**DAVIDSON FRUIT COMPANY****DON'T YOU DO IT  
PAY RETAIL PRICES FOR OLD CARRIED-OVER  
GRASS SEEDS**WHEN YOU CAN PURCHASE NEW SEED DIRECT AT WHOLESALE  
WRITE FOR PRICES OF JUST WHAT YOU WILL WANT**J. J. BUTZER, Seedsman**  
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*Manufacturer of*

The Goyett Automatic  
Apple Box Press

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THE FINEST BERRY  
ON EARTH AND  
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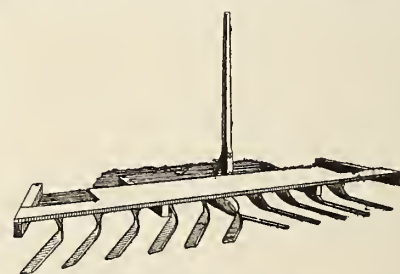
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# LIST OF FRUIT GROWERS UNIONS AND HORTICULTURAL SOCIETIES

WE publish free in this column Society, with the name of their organization or Horticultural the name of any Fruit Growers secretary or manager. Secretaries and managers are requested to furnish particulars if omitted, for future publication.

## Oregon

Oregon State Horticultural Society—E. R. Lake, Secretary, Corvallis.  
Forest Grove Horticultural Society, Forest Grove—Col. Harry Haynes, Secretary.  
Clackamas Horticultural Society—J. C. Zinzer, Secretary, Oregon City.  
Mosier Horticultural Society—A. P. Bateham, Secretary, Mosier.  
Medford Horticultural Society—L. B. Brown, Secretary, Medford.  
Hood River Horticultural Society—J. L. Carter, Secretary, Hood River.  
Marion County Horticultural Society—E. C. Armstrong, Secretary, Jefferson.  
Linn County Horticultural Society—F. M. Mitchell, Secretary, Albany.  
Polk County Horticultural Society—R. L. Chapman, Secretary, Dallas.  
Yamhill County Horticultural Association—W. H. Kingery, Secretary, McMinnville.  
Medford Fruit Growers Union—Medford.  
Ashland Fruit and Produce Association.  
Grants Pass Fruit Growers Union—Chas. Meserve, Secretary, Grants Pass.  
Hood River Fruit Growers Union—E. H. Shepard, Secretary and aMnager, Hood River.  
Hood River Apple Growers Union—E. H. Shepard, Manager, Hood River.  
Grande Ronde Valley Fruit Growers Union, La Grande, Oregon—E. Z. Carbine, Secretary.

## Idaho

Southern Idaho Fruit Shippers Association—C. J. Sincel, Secretary, Boise.  
New Plymouth Fruit Growers Association—A. R. Ingalls, Representative, New Plymouth.  
Payette Valley Apple Growers Union—J. A. Bower, President, Payette.

## Washington

The Thurston County Horticultural Society—C. D. Sullivan, Secretary.  
Waterville Horticultural Society—Ben Spear, Secretary, Waterville.  
Yakima County Horticultural Society—E. E. Samson, Manager, North Yakima.  
Spokane County Horticultural Society—L. G. Monroe, Secretary, Spokane.  
Snohomish County Horticultural Association—C. L. Clemens, Secretary, Snohomish.  
Sultan Horticultural Society, Sultan—Thos. Musgrove, President.  
Kennewick Fruit Growers Association—W. S. Jenkins, Manager, Kennewick.  
Wenatchee Fruit Growers Union—Ed. M. Foy, Manager, Wenatchee.  
Puyallup and Sumner Fruit Growers Association—W. H. Paulhamus, Manager, Puyallup.  
Vashon Island Fruit Growers Association—C. J. Prior, Secretary, Vashon.  
Fruit Growers Association—Shelton, Mt. Vernon.  
Spokane Fruit and Vegetable Growers Association—Spokane.  
White Salmon Fruit Growers Union—Carl Ross, Manager.  
Thurston County Fruit Growers Union—Fred W. Lewis, Secretary, Tumwater.  
Bay Island Fruit Growers Association—H. McGavick, Manager, Tacoma.  
Whatcom County Fruit Growers Association—J. H. Kirkpatrick, President, Curtis.  
Yakima Valley Fruit and Produce Growers Association—Grange.  
Sunnyside Fruit Growers Association—Sunnyside.  
Buckley Fruit Growers Association—J. B. Frost, President, Buckley.  
Lewis River Fruit Growers Union—Woodland.

## Colorado Fruit Associations

San Juan Fruit and Produce Growers Association, Durango, Colorado, and Farmington, New Mexico—J. M. Kingsley, Manager.  
Fremont County Fruit Growers Association, Canon City—Geo. Sailey, Manager.  
Rocky Ford Melon Growers Association—A. C. Sloan, Secretary, Rocky Ford.  
Plateau and Debeque Fruit, Honey and Produce Association, Debeque—H. A. Stroud, Manager.  
Montrose Warehouse (shipper of fruit)—Robert Halley, Manager, Montrose.  
Surface Creek Fruit Growers Association, Austin.  
Longmont Produce Exchange—R. D. Jenkins, Manager, Longmont.  
Manzanola Fruit Association—Ed McClain, Secretary, Manzanola.  
Delta County Fruit Growers Association—Geo. Conklin, Manager, Delta.  
Boulder County Fruit Growers Association—E. T. Carr, Manager, Boulder.  
Fort Collins Beet Growers Association—Chas. R. Evans, Manager, Fort Collins.  
La Junta Melon and Produce Company—J. O. Wood, Secretary, La Junta.  
Rifle Fruit and Produce Association—Rifle.  
North Fork Fruit Growers Association, Paonia, Colorado—W. H. Garvin, Manager.  
Fruita Fruit and Produce Association—E. J. Dalton, Manager, Fruita.  
Grand Junction Fruit Growers Association, Clifton, Palisade, Grand Junction—J. F. Moore, Manager.  
Palisade Fruit Growers Association—Geo. Scroggins, Manager, Palisade.  
Independent Fruit Growers Association—Grand Junction—Ferbrache, Manager.  
Peach Growers Association, Palisade.

## Canada

British Columbia Fruit Growers Association—W. J. Brandrith, Secretary, Ladner, British Columbia.  
Georgian Bay Fruit Growers Association—J. G. Mitchell, Secretary, Thornbury, Ontario.  
Ontario Fruit Growers Association—P. W. Hodgetts, Secretary, Toronto, Ontario.  
Quebec Fruit Growers Association—Dr. W. H. Wood, St. Johns, Quebec.  
Nova Scotia Fruit Growers Association—S. C. Parker, Secretary, Berwick, Nova Scotia.  
Prince Edward Island Fruit Growers Association—A. E. Dewar, Secretary, Charlottetown, Prince Edward Island.

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E. H. SHEPARD, Manager,  
Hood River Apple Growers Union.

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## DOINGS OF FRUIT GROWERS OF THE PACIFIC NORTHWEST

DAN VAN HOUSEN is delivering at La Grande, Oregon, 60,000 apple trees which have been sold to fruit-growers in the Grand Ronde Valley by the Woodburn Nursery of Oregon.

F. WALTON & SONS, of Zillah, Washington, have just finished hauling to the warehouse the crop from their forty acres of apple trees. The crop this year amounted to 12,000 boxes, and it will net them about \$3,000.

THE fruit exhibit sent by the Provincial Government by Mr. R. M. Palmer, Department of Agriculture, to England, and displayed at the Scottish Horticultural Exhibition at Edinburg, captured the first prize, which consists of a gold medal. The fruitgrowers of British Columbia may well be proud of this achievement. Canada is now and always will be a producer of fancy fruit, and is able to hold its own in competition with any other fruitgrowing district.

FRUIT INSPECTOR CUNNINGHAM of Vancouver, B. C., recently turned down a car of American apples badly affected with the San Jose scale and codlin moth, which were shipped from Yakima, Wash., to Grand Forks, B. C. Fruitgrowers of the Pacific Northwest should use every means of stamping the dreaded disease of San Jose scale and fight the codlin moth. Fruit so affected should be kept at home and consumed in the cider factory or evaporator.

MANAGER MCGILL, of the Oregon Nursery Company, of Salem, Oregon, has made arrangements with the Southern Pacific Railroad for a car of walnuts to be brought from the State of California for seeding purposes. The Oregon Nursery Company is making every effort to grow the very best walnut trees that can be grown from the right kind of seed, buying their walnuts direct from the orchards where they know the trees are of the right kind, and of the right generation.

HOOD RIVER, Oregon, has been receiving considerable free advertising of late by the so-called "just as good" apple sections of the Pacific Northwest. Hood River may well be proud of the distinction of being looked upon as the standard in producing fancy apples. There is no reason why a good many sections in the Pacific Northwest could not produce as good apples as Hood River. All it needs is some of the thrift, push, and go-aheadiveness of the apple-growers of Hood River. If you want to catch that spirit, come to Hood River and stay a week, and you will get enough to last you a year.

J. B. NUNN, fruit inspector of the Dal-las district, estimates the dried prune crop this year will be 720,000 pounds. The total value of the crop at the average selling price of 3½¢ will be \$36,750. Mr. Nunn has the impression that a larger percentage of the prune crop was saved in Polk County this year than in any county in Oregon. The yield of their fruits and the value of the same is estimated by the inspector as follows: 25,000 bushels apples, at \$1.25, \$31,250; 20,000 bushels apples, at 50¢, \$10,000; 8,000 bushels pears, at 50¢, \$4,000; 50,000 pounds cherries, at 5¢, \$2,500; 2,000 crates raspberries, at \$1.50, \$3,000; 2,500 crates

strawberries, at \$1.75, \$4,375; 400 crates loganberries, at \$1.50, \$600; 5,000 pounds grapes, at 5¢, \$250.

THE fruitgrowers of Grand Ronde Valley have great faith in the future of the cherry. A good many new orchards will be set in the spring. George Thomas, of Cove, Oregon, contemplates setting out 1,000 trees. He has now about twenty acres of bearing cherry orchard. In the past season they made returns at the rate of \$325 per acre. White Bros. & Crum, of Lewiston, have contracted the entire crop of shipping varieties five years ahead at 5¢ a pound, which insures the growers a good, sure income.

THE California State Horticultural Commission has sent out letters to the peach growers of that state warning them against allowing their trees to remain unsprayed after the last of November. Peach blight has made its presence known this year in greater proportions than ever before, and the State Horticultural Commission is very anxious to see the pest wiped out. Peach blight is started by a parasite fungus, which after it is started is exceedingly hard to kill. If, however, the trees are sprayed

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BOTH ONE YEAR FOR  
ONLY ONE DOLLAR

Better Fruit Publishing Co.  
HOOD RIVER, OREGON

about the last of November and the first week in December, the pest may be killed in embryo. Bordeaux mixture is used for this fungus.

THE fruitgrowers of Freewater, Oregon, are subscribing capital to establish a cannery for their city. Wm. McLaughlin, of Walla Walla, is promoting the company. Shares are sold at \$100 each.

THE fruitgrowers of Kittitas Valley have organized a fruitgrowers association, where the following trustees were elected: J. P. Warner of Seattle, J. P. Flynn, W. H. Talbott, J. C. Hubbell, Jos. Ramsey. The capital stock will be placed at \$25,000, in one thousand shares.

W. N. MOORE, the prune buyer of Douglas County, purchased the past season's crop for Jas. R. Baker & Co., of Chicago. Among the purchases made by Mr. Moore are the following: C. C. Johnson, 40,000 pounds; G. A. Hover, 30,000 pounds; H. Pohlman, 20,000 pounds; R. T. King, 20,000 pounds; M. Demmer, Jr., 20,000 pounds; Mr. Carter, 10,000 pounds.

WENATCHEE VALLEY has marketed only about 40% of her apple crop. Most of the cheaper varieties have been sold, and they are holding the best and good keepers for higher prices. Their Spitzenbergs today are selling for \$2.00 a box, Winesaps \$1.25 and Newtown Pippins \$1.40. They feel confident that the prices in the spring on the above varieties will go to \$2.50 and \$3.00 per box.

F. A. HUNTLEY, Commissioner of Horticulture of the State of Washington, reports that the apple crop is a general average for the state. The entire district east of the Cascade Mountains from Chelan on the north to the Columbia River boundary on the south, and as far east as Kennewick produced a bumper crop. In the Walla Walla section, Palouse, and on the Snake River the crop was short, but taking the state as a whole the crop equals an average yield.

L. H. RUMELHART, of La Grande, Oregon, has been trying quite a novel way of catching the codlin moth the past season. He takes a tin can 10x12 inches or 12x16 inches, eight or ten inches deep, and paints the bottom of the same black, and fills the can with about four inches of clear water, and then places it under an apple tree. The black paint shining through the clear water forms a mirror, and reflects the leaves and limbs of the tree in the water. The moth will fly on the imaginary leaf, and consequently get drowned. Mr. Rumelhart claims to have caught thousands of moths in this way.

PROF. R. W. FISHER, Professor of the Department of Horticulture, of Bozeman, Mont., has completed an orchard survey of the Bitter Root Valley, at which he gathered statistics which will be of considerable value to the fruitgrowers of that region. He listed the total acreage of orchards throughout the Valley, together with the statement of the variety of apples grown on each acre, and the method of cultivation used. Professor Fisher is using every means of bringing the fruit industry of Montana to the state of perfection attained in Washington and Oregon. He is also impressed with the idea that fruitgrowers must organize in order to get the best results for their labors. He has recently returned from a trip through the Hood River and Yakima fruit districts, and investigated thoroughly the workings of fruitgrowers associations. He sees their



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LINCOLN, NEBRASKA  
The Best Distributing Point in the West

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Correspondence Solicited and Cheerfully Answered

value to the fruitgrower, and contemplates organizing the fruitgrowers of the Bitter Root Valley this winter.

MEDFORD, Oregon, will ship this season about 150 cars of as fine quality of apples as was ever grown. In spite of the large apple crop this season they have sold for higher figures than last year. Some of their first carloads of Newtowns going to London have sold from \$3.12 to \$3.60 per box. The cost of

shipping from Medford to London is about \$1.10, which leaves a good margin for the grower.

THE Yukon Basin in Alaska is producing a large quantity of wild berries of fine quality. Many of the large families of Dawson have gone camping for several weeks on the nearby creeks, and have picked enough berries to provide them with fresh fruit all winter. Hundreds of pounds have been put up by

some of the families. Blueberries, raspberries, dewberries, and wild currants grow in large quantities.

INSPECTOR J. M. BROWN estimates the 1906 crop from Yakima County \$1,200,000. There will be about 1,400 carloads of fruit of which 1,100 are apples, peaches and pears, and about in the same proportion. He expects that about 1,000,000 of trees will be planted in the county next season.

## SUPERLATIVE RASPBERRY WILL LEAD ALL OTHER VARIETIES COMMERCIALY

Achieves Sweeping Triumph Wherever Planted—Larger, Richer and More Prolific—  
Conceded the Best Red Raspberry That Has Ever Been Introduced

THE Improved Superlative Red Raspberry has been perfected on Puget Sound—the home of the red raspberry—and has been demonstrated a practical commercial success. Growers to whom it has been introduced are plowing out other varieties and planting the Superlative from the improved strain.

As a berry to eat with sugar and cream, the Superlative is without an equal. Its size and appearance, as well as its taste, make it the best seller on the market, and growers are obtaining a premium price for it. Its shipping qualities are not excelled by any other red raspberry. At the Lewis and Clark Fair the Superlative was awarded the Gold Medal, the highest award, over all other red raspberries.

The following extracts from letters written by growers describe some of its qualities:

"Hang on the canes well—Are remarkably firm and prove to be fine shippers—Are much larger than any other variety. Am convinced they will prove larger producers and better shippers than any other variety. Will be good seller. I have no plants for sale."—D. F. Sexton, President Snohomish County Horticultural Association and President of the Snohomish Valley Growers Association.

### WHAT LARGEST GROWER SAYS

The Snohomish Berry and Fruit Co. have one of, if not the largest raspberry fields in the world. They say:

"Any new item of value in the raspberry from a commercial standpoint is of material value to us. We have several varieties under observation. From our experience with the Superlative we will confine our future plantings to this variety. The berry is very large, nearly double that of other varieties and yields 50% heavier. Shipping quality is good. Sample crates shipped east attracted much attention. The merits of the Superlative will undoubtedly transform the raspberry industry. No plants for sale at any price, as we need all we can produce to extend our planting."—Snohomish Berry and Fruit Co., H. S. Wright, Manager.

"Superlative is acme of perfection in the raspberry family, excelling all others, and my 50 years of experience covers many varieties. Has hardy and healthy growth. Fruit the largest of any variety. Quality the very best.

Very prolific. Core is very small. Flesh very deep. Seeds very small. Believe it will become the best shipper of all and command the highest price. Fruit does not fall from plant when ripe. Leaves are very large and corrugated, making it practically insect proof. Canes mature early. Have no plants for sale at any price."—Wm. Bennison, a Snohomish County horticultural authority, and of wide experience both in England and America.

"Do not think I ever saw their equal and I am an old berry raiser."—F. Walden, Fruit Editor of The Ranch.

"Superlative raspberries shipped in open crates without refrigeration as far as Kalispell, Montana. Very satisfactory results."—Snohomish Valley Fruit Growers Association, per W. P. Dalton, Shipper.

### DISCARDS ALL FOR SUPERLATIVE

"Superlative will revolutionize the raspberry industry in the commercial berry sections. In all my experience, testing practically every new raspberry I have never had a variety to equal the Superlative. Have discarded all others for this. It outyields any berry of my experience."—J. F. Littooy, Horticultural Inspector Snohomish County.

The hardness of the Superlative raspberry is conclusive, as it stands the severe climate of Eastern Canada. Wherever introduced it has enthused the growers. It is very difficult to obtain plants of the improved strain. The Chas. H. Lilly Co., of Seattle, have exclusive sale of the Superlative, and the quantity is limited.

The characteristics of the Superlative are:

**Cane** is smooth—grows erect—matures early—vigorous, strong, healthy—practically thornless.

**Leaves** thick, dark green, deeply corrugated or wrinkled—practically insect proof, as red spiders or mites cannot travel on the leaf—leaf distinct from any other raspberry.

**Fruit** one to one and half inches long—very prolific—ripens simultaneously with earliest varieties and continues to end of season with latest varieties—lobes deep—cores small—seeds small and masticated easily—flavor sub-acid, aromatic—perceptibly sweeter than other favorite varieties—no mustiness—color, delicate crimson—texture, firm—shipping quality, best.

### PLANT THE IMPROVED STRAIN

The Chas. H. Lilly Co., of Seattle, sell the improved strain of the Superlative. The quantity is so limited and the privilege of exclusive control so costly that the roots cannot be sold for less than \$1 each. As large orders are not solicited there will be no reduction for quantities. The Lilly Company prefer to have their limited supply distributed among individual growers all over the country, furnishing a perpetual advertisement of the company.

Berry roots from Puget Sound grow better all over the United States than roots grown anywhere else, and this has been demonstrated to be true with the Superlative. Roots will be packed so as to arrive in perfect planting condition, even if shipped across the continent.

### PLANTS IN GREAT DEMAND

As everyone who sees this fruit will want it, it will pay growers and farmers in all parts of the country to start a few plants. The Superlative will be the leading raspberry within a few seasons and plants from the improved strain will be in great demand for many years to come. Dollars invested in Superlative berry roots will return a hundred fold. The Chas. H. Lilly Co. are by far the largest and best established plant and seed house on the Pacific Coast, and they stand behind everything that is claimed for the Improved Strain of the Superlative Red Raspberry.

In ordering use the attached coupon, writing name and address plainly.

Cut this out and mail to the

**CHAS. H. LILLY Co.**

SEATTLE, WASH.

Enclosed find \$..... for which send me..... Superlative Red Raspberry roots from the Improved Strain, at \$1 each, postpaid. Also send free, postpaid your complete new Seed and Plant Catalogue.

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## A NEW RASPBERRY

**T**HE new red raspberry—the Superlative—is being tried extensively in the Puget Sound country, and is proving a great commercial success. The prediction is made that the Superlative will revolutionize the raspberry industry in the commercial berry sections.

The Superlative is being introduced by the Chas. H. Lilly Company of Seattle. Puget Sound is the home of the raspberry, the growing of this fruit being one of the chief industries of the Sound country. Hundreds of carloads are shipped every season, bringing hundreds of thousands of dollars to the growers.

The Superlative has proven not only the greatest berry for the Puget Sound country, but has withstood the severe climate of Ottawa, Canada, for two seasons, which demonstrates its hardiness.

What the Superlative is achieving should command the attention of every fruitgrower in the United States. Before placing the Superlative Raspberry on the market, plants were distributed among leading commercial raspberry growers and horticultural experts. The approval of the new variety was not only unanimous, but enthusiastic. Mr. J. F. Littoy, Horticultural Inspector of Snohomish County, Washington, one of the leading berry authorities of the United States, wrote: "In all my experience in the culture of the raspberry and testing every new raspberry I hear of, I have never had a variety to equal the Superlative, and have discarded all others for this. I have just grubbed out seven new ones because they have not the necessary qualities as a commercial berry."

The Superlative is a surprise in every way. Its habit is different, as are also the leaf and fruit. The berry is shaped like the Cuthbert, but the size is very much larger—so large that the Superlative is often mistaken for the Loganberry. The berry ranges from one to one and a half inches long. The cells are large, the seeds very small and brittle and are almost unnoticeable in chewing, as they crush easily—a peculiarity of the Superlative. The core is the smallest of any raspberry. In color the Superlative is crimson, but not a deep shade. The flavor is sweeter and richer—less acid—than other raspberries. People who ordinarily do not eat raspberries enjoy the Superlative because of its aromatic, sub-acid flavor.

In shipping qualities, the Superlative is making quite a reputation for itself. It is a firm berry and has been shipped 48 hours distance without refrigeration, arriving in perfect condition for market.

As a yielder the Superlative is very prolific. The canes grow very erect and the berry matures early. The ripening period begins with the earliest varieties and continues late, right through to the end of the season.

The leaves are quite distinct from any other raspberry. They are very deeply wrinkled or corrugated, thus forming a protection against the ravages of the red spider mite. In the same patch the Superlative has protected itself from the mite where other varieties on either side of the Superlative have been stripped leafless. The canes are practically thornless.

It is hard to obtain roots of the Superlative as growers who have them use the plants to increase their own acreage.

# \$1,000

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**F**ARMING is an illustrated monthly magazine for the man and woman interested in this important subject.

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The subscription price of FARMING is one dollar, and the subscription price of BETTER FRUIT is one dollar, but if you will subscribe at once on the coupon below, we will give you a year's subscription to both magazines for \$1.75 and in addition give you a

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## BETTER FRUIT

### HOOD RIVER, OREGON

A MONTHLY ILLUSTRATED MAGAZINE PUBLISHED IN THE INTEREST OF UP-TO-DATE PROGRESSIVE FRUIT-GROWING & MARKETING  
ALL COMMUNICATIONS SHOULD BE ADDRESSED AND REMITTANCES MADE PAYABLE TO THE BETTER FRUIT PUBLISHING COMPANY

E. H. SHEPARD AND E. A. FRANZ  
EDITORS AND PUBLISHERS

SUBSCRIPTION PRICE \$1 PER YEAR  
IN ADVANCE IN THE UNITED STATES & CANADA  
FOREIGN SUBSCRIPTIONS, Including Postage, \$1.50  
ADVERTISING RATES FURNISHED ON APPLICATION

**B**ETTER FRUIT is now six months old. The fruit people in general were not only pleased but surprised over the quality and merit of the first issue. The universal exclamation was "Splendid, just what we need," usually followed by "Try and keep up your standard," or "Can you keep up such a pace?" We heard the same remarks continually after the second, third, fourth and fifth editions, and we suppose they will follow this.

One journalist informed us "at our gait we would sink \$15,000 in a year." Another said "Why it is perfectly beautiful, but too expensive." "Orchardists will not pay for such elegant work; they want a cheap paper, twenty-five or fifty cents a year; a dollar a year looks as big as a cart wheel for a year's subscription to a paper." All of our friends said "You will go broke."

Our motto always has been and will be: "When you have things coming your way, work harder and make them come faster," and when they are not coming, "settle right down in the collar and work still harder," to be brief, "make 'em come."

Our ideas were, the orchardist wanted just such a paper as "Better Fruit." The fruitgrower wanted the best of everything and not only was willing but could afford to pay for it. We had confidence in the fruitgrowers. We felt sure we were right and went ahead, and last but not least, we had confidence in ourselves. And although it is costing \$10,000 per year to publish "Better Fruit," the result today is success, and we are pleased to say that "Better Fruit" in six months is self-sustaining. Therefore we wish to thank our many friends who have so kindly assisted us by sending in subscriptions, not only for themselves but others. In addition we promise, if you will continue to give us your help, that we will continue to make "Better Fruit" better, which today is not only the best fruitgrowers' paper published in America, but the handsomest and the only one devoted exclusively to commercial fruitgrowing.

To every enthusiastic supporter of "Better Fruit," to every subscriber, every advertiser, and every reader we wish a Merry Xmas and a Happy New Year.

**A**DVERTISING in "Better Fruit" gets results because we reach all the best fruitgrowers in the Northwest. These orchardists believe in giving their business to the advertisers who assist in maintaining the highest class exclusive fruit journal, "Better Fruit." Our readers have confi-

dence in the advertisers in our paper, because we accept no patent medicine, quack doctors, liquor, or tobacco advertisements, or unreliable firms.

"Better Fruit" accepts advertisements only from reliable houses, and advertises only lines of trade that are of interest to the fruit grower. "Better Fruit" does not have to accept any other kinds of advertisements, and it will not.

**T**HE recent circuit court decision in the Sellwood-Reid case is one of paramount interest to the fruitgrower. It seems that Sellwood was asked, requested and notified to spray his orchard which was badly infested with San Jose scale, and not only neglected but refused, and defied Inspector Reid. Whereupon the latter proceeded to cut down some thirty-four prune trees, when upon the promise of the owner to spray, the chopping down job was suspended. The owner then brought suit in the circuit court, and the case was decided in favor of the county inspector.

The fruit inspector of Portland condemned and destroyed a lot of diseased fruit, whereupon the owner sought damages in the civil court, and the court upheld the law and decided the case in favor of the inspector.

Last year in California a member of an association contracted to the association and then sold privately. The association brought suit for non-delivery of the fruit, and the court decided in favor of the association.

The first case establishes the validity of the law, and the law recognizes the authority of county inspectors to compel spraying.

The second case establishes the validity of the law of fruit inspectors to condemn and destroy diseased fruit, and the court recognizes that authority.

The third case, equally important, establishes the validity of contracts of members with associations, and the law enforces the fulfillment of such contracts.

These laws were brought about by able fruit men, who were willing to do right. Without such laws it would be folly for men to invest their capital in orchards, without any protection from spreading diseases.

It is to be regretted that anyone would maintain an orchard, infected with disease, which could be of no value to himself, and a constant menace to his neighbors. It is good if such people exist to have the laws and gratifying to have their validity recognized by the courts, and certainly a great satisfaction, to those who have capital invested in orchards, who are willing to do what is right, to feel that others will be compelled to do so. The laws are good and it is good they must be obeyed.

**O**UR title-page illustrations have been universally conceded the most beautiful cover pages appearing on any horticultural journal. They add a touch of "charm" by their beauty, command the admiration of all by their exquisite typographical work and artistic engraving—while the expense might be our folly—their beauty and originality is our pride. They are always interesting because they are new, because they are original, and withal this they are always "apropos" because we never lose sight of the fact, they must be significant.

Christmas comes but once a year and with it always should be "good cheer," and still this is not all it signifies; but as our readers are cognizant of its fullest

meaning in a general sense, we will not dwell on that but confine ourselves to its significance to the fruit grower in so far as it applies to him in a way not shared by the rest of the busy world.

In the midst of the orchardist's harvesting and marketing, frequently come dreams of future happiness, visions of his cornucopia being overflowing, momentary thoughts of sweet rest, when his gratifying returns shall have been received, and his year's work will be done. The calling of an orchardist is one of a few vocations, yes a very few, that affords a respite from the never-ceasing grind, and thrice happy he should be who is an orchardist, for Christmas brings to him, not alone good cheer, but plenty and, perhaps a greater blessing, a much-needed rest, for when Christmas comes the fruit has been picked, packed, marketed, and the proceeds of the harvest are in the bank and your year's work is done. Vacation time is here—when the winter winds blow and the land is covered with beautiful snow. The wolf is never near our door. Such are our dreams of the Christmas you will be realizing when "Better Fruit" comes to wish you all a Merry Christmas and a Happy New Year.

But in our dreams we, like all other dreamers, let sweet nature lead us where she will—and so have wandered far from our first thought, the significance of our cover page and its relationship.

When the harvest is over there comes a time to the growers and readers of "Better Fruit" when they can say its year's work is over, and they can enjoy the much needed rest—or perhaps enjoy some delightful vacation trip—a time when they can be happy over the results of a prosperous year if the work has been well done—this is Christmas time.

We have produced a scene in South Water street, Chicago, upon which are located all the principal fruit houses of this great metropolis, which we trust will be new and interesting to our many readers as well as instructive. While we sit by the fireside smoking our pipe of peace and contentment, surrounded by prosperity, comfort and blessed with health, let us pause one moment in our reflection to consider the busy life at Christmas of those who buy and sell our fruit—those who never know what it is to rest. Just to place an object lesson before our children, by drawing a comparison between such a busy life in a crowded street in a great big busy city, a life that knows no rest, one that gets but little of God's greatest blessings, sunlight and fresh air, and ours, and ask our boys which will he choose?

Let us remember too while we idly muse, that while we do our part the buyers and sellers do theirs, and without them we could not exist. Our work this year is done, theirs never. "Better Fruit" wishes every one of its fellow fruitgrowers and readers a Merry Christmas and Happy New Year.

It is Christmas time. If you have a grievance, bear in mind it may be fancied and forget it, and drop your buyer or commission man a line, or join us in wishing the fruit buyers, sellers and commission men a Merry Christmas and a Happy New Year.

**W**HILE we are indeed indebted to our subscribers, and in another article have expressed our appreciation, we want not only to call the attention of every subscriber, yes, every reader, everyone interested in "Better Fruit" to our advertisers, but to say a few words in addition,

This paper is for the benefit of the fruit-grower. You have shown your appreciation and have given us your subscription accompanied by the necessary dollar, which has been a great help, but even with all this we could not continue to publish the high class paper we are giving you without the advertising support. The support and confidence imposed in the simple promise and word of the publishers that we would not only publish a paper that would be the pride of every orchardist, but that we would publish an average edition of 5,000, that we would reach practically every one of about ten thousand orchardists in the Northwest as fast as possible, was indeed a compliment that was gratifying beyond all expression.

Eighty-one firms have advertised in "Better Fruit," and backed up their confidence from \$2.50 to \$30 per month. The orchardists are indeed indebted to these advertisers, for without them "Better Fruit" could not be. They have made it possible for us financially to publish a paper that is just what you need, a paper that has given, is publishing, and will continue to furnish the best methods for every feature of the business of fruit-growing. Therefore you, fellow fruit-growers, owe them a debt of gratitude which can be cancelled only by giving the advertisers in "Better Fruit" all the business you have in their respective lines. We do not believe we are asking too much when we request every subscriber and reader of "Better Fruit" to read every advertisement in "Better Fruit," and we beg of each one of you, if you wish to maintain "Better Fruit," that you assist us to do so by recognizing

ing the support of advertisers by giving them all your business when they have what you want at the right price. Last of all, do not forget to mention "Better Fruit" when you do so. It will help you, your business will help them, and we will not be lost in the shuffle.

We want to say that we sincerely appreciate our advertising support, and from the bottom of our hearts we wish them each and every one a Merry Christmas and Happy and Prosperous New Year.

~

**M**R. PAULHAMUS, manager of the Puyallup and Sumner Fruit-growers Association, acquainted us with the fact that in one week the cannery paid the growers of the Puyallup Valley \$7935.29 for berries that were too ripe to be shipped across the continent. This is the most striking illustration of the value to any district of the importance of saving fruit that is not first class shipping stock, for the reason that it illustrates the matter in a wholesale way, and very forcibly on account of the large amount of money saved. We have advocated from time to time the establishing of canneries in all districts, for the reason that not only is the saving great, but with this opportunity to dispose of fruit that is not absolutely fancy the grower can easily be persuaded to sort properly, which means more money for the fruit shipped and no loss on the fruit that is not fit to ship.

One of the aims of this paper in addition to advising the grower in every way possible as to how to grow better

fruit is to show him how to dispose of the surplus that is not fancy. If the association or the grower can find a cannery or a private concern that will take the fruit and make it into some by-product, they will find it of great benefit in many ways. The Pacific Coast Syrup Company has refineries at San Francisco, Portland and Seattle, where they manufacture syrups, molasses, preserves, jams, jellies, mince meat, etc. They are in a position to contract with associations or private individuals for large quantities of fruit to be utilized in the manufacture of by-products, as indicated above. We therefore urge every association and every fruit grower in the vicinity of any of these plants to correspond with this firm, and believe in doing so we are giving excellent advice. By so doing you will secure a good price for the fruit that is unmarketable that will be a great saving, and by finding a market for this kind of fruit you will be able more easily to cull out such fruit, consequently your pack of fancy fruit will be higher grade and will realize you more money.

The associations and growers by availing themselves of such an opportunity as offered by the Pacific Coast Syrup Company will be making money in two ways, by saving what otherwise might be wasted, and by packing out a fancier grade, which will get them more money for the better grade shipped.

The Pacific Coast Syrup Company we understand are now in the market for a number of cars of apples suitable for canning, and we believe they offer \$15.00 per ton for such apples delivered Seattle.

## PLANTING AN ORCHARD IS MAKING A BUSINESS INVESTMENT

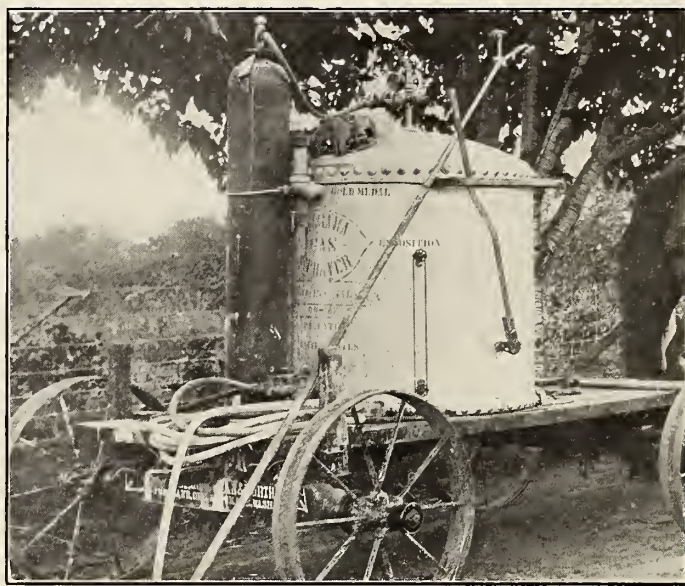
A discreet man will not tie up his money without full investigation. He figures on future returns and the ability to turn his investment into cash again. Buying out-of-date clothing or dry goods or stale groceries is no more foolish on the part of a merchant than to plant a lot of trees from "nobody knows where" just because they're cheap. One firm of orchardists near Spokane recently told us they were **DIGGING UP A BIG ORCHARD PLANTED LAST YEAR** on account of the pests they bought with their trees. They lose a year's growth and their labor in planting and cultivating for a season, besides the original cost of their trees. **WERE THOSE TREES CHEAP?** Our stock is grown on the Reservation far from any old orchards and both Canadian inspectors and inspectors this side of the line, testify that our trees are "cleaner by far than from any other nursery" whose trees they have handled. If you contemplate planting, kindly write us for particulars—or better still—come and see our stock

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FRUIT TREES AND ORNAMENTALS  
IN THE PACIFIC NORTHWEST

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8:45	FAIRVIEW .....	5:30
8:50	TROUTDALE .....	5:25
9:12	BRIDAL VEIL .....	5:02
9:41	BONNEVILLE .....	4:32
9:53	CASCADE LOCKS .....	4:20
10:06	WYETH .....	4:06
10:33	HOOD RIVER .....	3:40
10:45	MOSIER .....	3:28
11:20	THE DALLES .....	3:00
11:59	Arrive BIGGS .....	Leave 12:15

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PLACE TO SEND FOR THEM  
LIVE SALESMEN WANTED EVERYWHERE  
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One year old top on  
three year old root, the  
only kind of trees that  
should be planted



Our trees are endorsed  
by all LARGE  
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**14,000 Arkansas Black**  
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**27,000 Newton Pippin**  
**14,000 Rome Beauty**  
**31,000 Jonathan**  
**35,000 Spitzenbergs**  
**15,000 Wagener**  
**15,000 Winesap**  
**15,000 King**  
**9,000 Winter Banana**

You do not pick \$3.00 a box apples from small, scrubby, inferior trees. You must plant the best tree obtainable to get best results. If you are in the market for trees, it will pay you to investigate our stock before buying elsewhere

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Woman's Home Companion .....	1.00		
Success Magazine .....	1.00		
Better Fruit .....	1.00		
		\$6.00	

The Review of Reviews and the World's Work, each in its special field, are conceded to be without equal, the highest class in America. Such magazines as McClure's, Success, The Delineator, and the Woman's Home Companion, are so familiar that any comment on our part could not contribute to their well-earned reputation. Through the courtesy of the publishers of the World's Work and the Review of Reviews, we are enabled to offer these publications, including "Better Fruit," at unparalleled prices. You can secure our Big Four publications as given in our list for thirty-five cents more than the subscription price of either the World's Work or the Review of Reviews alone.

**Better Fruit Publishing Co.**  
Hood River, Oregon

# Facts & Figures

OUR SCHOOL is the largest private school in the state. We have the best corps of instructors on the coast. Ours is the most expensive equipment west of Chicago. Our graduates are all employed and we could place hundreds more.

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## SPRAYS AND SPRAY PUMPS

Our sprays for either winter or summer are the best. Our spraying outfits are unexcelled and we can furnish either hand or power outfits that will do the work right. "Nothing succeeds like success," and those who use our goods can tell the story of success, in quality, quantity and prices obtained. Write for pamphlet on Fertilizers, Sprays, Pumps, etc. We want to help you succeed.

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